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THE

DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

EDITED BY

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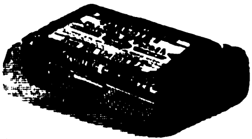

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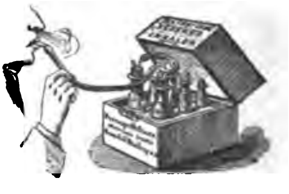

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THE DUBLIN JOURNAL
OF
MEDICAL SCIENCE.

JANUARY 2, 1893.

PART I.

ORIGINAL COMMUNICATIONS.

◆

ART. I.—*Saturnine Encephalopathy.*[a] By JOSEPH O'CARROLL, M.D., F.R.C.P.I.; Physician, Richmond, Whitworth, and Hardwicke Hospitals, Dublin.

THE fact that lead is capable of producing ill effects on the brain has been recognised from early times. But it was reserved for Tanquerel des Planches, who studied lead-poisoning in the Paris hospitals between 1831 and 1839, to complete the clinical description of the various conditions which brain-poisoning by lead presents, and to unite them under the name *encéphalopathie saturnine.*

As exceedingly little has been added to the clinical aspect of the subject since the publication of his work,[b] I shall have to draw largely on it in my account of the disease, noticing afterwards some modern references to the subject.

"The cerebral phenomena of lead-poisoning," says Tanquerel,

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[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, November 18, 1892. [For the discussion on this paper, see Vol. XCIV., page 531.]

[b] Traité des maladies de plomb ou saturnines. . . . par L. Tanquerel des Planches, docteur de la Faculté de Médecine de Paris. 1839. He appears to have first used the term *encéphalopathie saturnine* in a paper in the "Journal Hebdomadaire" for October, 1836. For brevity I shall imitate other writers in speaking of him throughout this paper as Tanquerel.

"are delirium, coma, convulsions, accompanied perhaps by more or less sensory defect. . . . It is a non-febrile neurosis of the encephalon of so variable physiognomy that between morning and evening, between to-day and to-morrow, the symptoms which declare its existence may change completely in aspect or in form." This rapidity of change in its symptoms is one of its principal characters. The onset of encephalopathy may be sudden, or it may be heralded for a longer or shorter time by prodromata, some of which may distinctly suggest lead-poisoning, but are so commonly unattended by head symptoms as to give us no indication of the onset of encephalopathy, while others may suggest brain disturbance without giving any hint of the cause. To the former class belong the various common phenomena of lead-poisoning, "dropped wrist," colic, arthralgia, the slate-coloured line on the gums,[a] and a peculiarly fœtid breath; the latter group includes headache, giddiness, tinnitus aurium, diplopia or amaurosis,[b] together with slight intellectual and moral changes in the direction of fidgetiness, sluggishness of ideation, moroseness, sleeplessness, or unpleasant dreams.

In its full development saturnine encephalopathy, as limited by Tanquerel, appears in one of four forms—namely, the *delirious*, the *comatose*, the *convulsive* form, or a combination of two or all of these, the *mixed* form. Of Tanquerel's 72 cases, 18 presented the delirious form alone, with 2 deaths, while 34 presented delirium, coma, and convulsions with 9 deaths. His total mortality was 16 out of 72 cases observed by him—a percentage of 22; while of the cases of other writers, as reported by Tanquerel, the mortality is about double that figure. This difference, however, as he suggests, is probably due to the fact that other observers were struck by the cases of grave illness and rapidly fatal result, while they forgot, or failed to recognise, the less grave cases which recovered. Either estimate is sufficient to demonstrate that saturnine encephalopathy is always a grave disease.

As the combination of two or three of these phenomena—delirium, coma, and convulsions—is the most frequent form of lead encephalopathy, so its prominent characteristic is, if I may say so, its inconstancy of symptoms. A case may at one visit present delirium, at another coma; to-morrow coma may have given place to convulsions, the day after the phenomena may be reversed; and each change may occur without warning, and often with extraordinary suddenness. I gather from Tanquerel that the prognosis is hopeful in proportion to the predominance of the least grave symptom, delirium, and gloomy in proportion to the predominance of convulsions. If coma persists beyond three days death is probable.

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[a] It is interesting to note that the blue line remarked by Burton as a sign of lead-poisoning in 1840 is very fully described by Tanquerel in 1839, and had probably been noticed even earlier.

[b] The affections of vision which occur in saturnine encephalopathy are to be distinguished from the affections of the optic nerve (mainly atrophic) which are frequently seen in lead-poisoning; the former are central, the latter are peripheral lesions.

Tanquerel records a large number of *post-mortem* observations by himself and others. As might be expected from the variable character of the disease, and from the fact that a considerable number of cases recover, no constant and well-marked lesion seems to have been discovered. But the observations may for the most part be thrown into three groups, which, allowing for the wide limits of error involved in pathological examinations, are by no means contradictory of one another. A large number of brains appeared normal; a smaller number showed a flattening of the convolutions, which in some cases suggested atrophy, and in some cases hypertrophy, of the brain; while a third group showed accumulation of serous fluid under the meninges, and sometimes in the ventricles. It is pretty evident that a case which has excess of serous fluid over the cortex is very likely to present depressed convolutions, while excess in the ventricles may well give rise to apparent hypertrophy, with flattening of the convolutions against the cranium.

I now turn to modern authorities. I find that the subject is practically untouched in von Ziemssen's Cyclopædia, and that Strümpell devotes but three lines to it in an appendix on Poisons. Savage ("Insanity and Allied Neuroses," 1886, pp. 340 and 431) notes acute mania, post-epileptic dementia, and a condition simulating general paralysis as occurring in lead-poisoning, and gives his adhesion to the view that lead-poisoning may cause genuine general paralysis. Hilton Fagge confines himself to the following statement ("Pract. of Medicine," 1888, I., 864):—"Lead-poisoning may produce maniacal excitement, or it may end in dementia. The same poison may produce all the symptoms met with in general paralysis, and may almost certainly give origin to that disease. It also leads to epilepsy and its results." He records in another part of that work (p. 673) a case of atrophy of the brain with excess of fluid, in a compositor who came under treatment for colic and paralysis; while the editor, Dr. Pye Smith, mentions a case ascribed to lead-poisoning in which the brain was perfectly normal.

Gowers ("Diseases of the Nervous System," 1888) deals pretty fully with saturnine encephalopathy, quoting Tanquerel for the name, but giving credit apparently to several modern writers for points noted long before them by him. His own observations are of distinct value as confirming or supplementing the work of the French authority. He states, for instance, that in several cases within his own experience "convulsions, similar in character and course to those of ordinary epilepsy, occurred in the subjects of lead-poisoning, without other symptoms, and continued for years after the toxic influence had ceased;" and again, that the affection of vision so commonly met with in this disease may be independent of ophthalmoscopic changes, and also of any renal affection. I find in Pepper's "Cyclopædia of Medicine" a short abstract of Tanquerel's work; in Flint's "Text-book of Medicine" the subject is still more briefly treated, and evidently quite at second-hand. Both Flint and Lauder Brunton ("Pharmacology and Therapeutics," p. 701) suggest that the cerebral symptoms which form the subject of this paper are really due to uræmia—a supposition which is not merely quite unjustified by clinical experience, but is open to a great many almost self-evident objections.

In the Goulstonian lectures on lead-poisoning, delivered in March, 1891, before the Royal College of Physicians of London, by Dr. Thomas Oliver, of Newcastle-on-Tyne, I find several interesting clinical records bearing upon the cerebral form of lead-poisoning. One is of a ballet-girl who had colic, headache, and amaurosis, the result of using a cosmetic containing lead. Another of an elderly lady who had used a hair-dye, who had diplopia, ptosis of one eyelid and left strabismus, and who was found dead in her bed shortly after the administration of a few grains of iodide of potassium. He refers to cases of insanity in association with the wearing of false teeth mounted in cheap lead-containing plates. In his experience, as in that of Tanquerel[a] and Gowers, the effect of lead does not cease the moment the external influence is withdrawn; fresh attacks may occur without fresh exposure, as though from time to time, under some specially solvent action of the tissue fluids, lead were taken out of some organ in which it had been deposited and thrown into the circulation to affect anew the most vulnerable part. He agrees with Tanquerel that lead encephalopathy may occur without the blue line on the gums. On the mental aspect of lead-poisoning he presents several valuable contributions, amongst which I may recall the following:—Cases of hysteria, determined by lead and not always of favourable prognosis, since this hysteria may be merely the forerunner of perhaps fatal encephalopathy; a case of epileptiform convulsions, followed for several days by loss of memory, which recovered; a case quoted from the Waterford Asylum Report for 1871 by Dr. (now Sir Francis) MacCabe, in which a white-lead worker with blue line on gums had monomania with depression, and recovered under treatment by iodide of potassium; and, lastly, a case which simulated pretty closely general paralysis of the insane, in which the urine contained lead, but no albumen, and in which, on *post-mortem* examination, the brain was watery and there was considerable accumulation of serum under the arachnoid membrane.

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[a] Tanquerel observed a man who had formerly been a house-painter, but who had been for eight years removed from contact with lead, who, however, each year had colic and brain-troubles of the character associated with lead-absorption.

In Eulenburg's "Real-Encyclopädie der gesammten Heilkunde" is an admirable and acknowledged abstract of Tanquerel's work, by L. Lewin, of Berlin, with the addition of a note on convulsions and coma produced in dogs by the experimental administration of lead, and a condensed statement of German views on the ætiology of lead encephalopathy, which runs as follows:—"Starting from the observation that shortly before and during the epileptic attacks there is a substantial decrease in urine excretion, Traube pointed out the likeness between this condition and that of uræmic intoxication. Following this further, some investigators hold that they have found albumen in the urine, while others deny its presence. All, however, agree that cerebral anæmia is the causative factor in the convulsions, coma, &c. According to Rosenstein (Virchow's Archiv. XXXIX.), the anæmia occurs through the stimulation of the unstriped muscle-fibres of the small cerebral vessels and capillaries by the lead deposited in the brain; whilst Heubel ('Pathogenese und Symptome der chronischen Bleivergiftung,' Berlin, 1871) attributes it to the condition of œdema and the greater wateriness of the brain, as proved experimentally, through which it is intelligible that compression of the brain-capillaries may occur. According to him the œdema occurs by increase of lateral pressure in the vessels in consequence of the diminution of diuresis caused by lead. For those cases in which neither œdema nor anæmia of the brain has been demonstrated, he offers as cause of the eclampsia a resorption into the blood of urinary constituents (urea and potassium salts). As against this view, Harnack sees the cause of the encephalopathy in a directly-stimulating action of lead upon the brain-centres."

I shall not dilate upon the treatment of lead encephalopathy; it resolves itself into symptomatic and eliminatory. The latter indication is, as far as our present knowledge goes, best fulfilled by iodide of potassium; but it by no means follows that the iodide ought to be administered during the cerebral attack. If the phenomena be due to the direct action of lead upon the nerve centres, then any drug which temporarily increases the amount of lead in solution in the body-fluids would be liable to do harm. The symptomatic treatment is in no wise peculiar; but I may point to the fact that most authors, from Tanquerel to the writer in Eulenburg's Encyclopædia, speak well of opium, as a clinical argument against the view which attributes this disease to a primary uræmia. Other sedatives may also be of service; the bowels, which form one of the eliminatory channels for lead, should be kept free; leeching, blistering, and various other procedures may seem desirable in particular cases. Needless to say that the patient should be absolutely withdrawn from the influence of lead.

I have delayed thus long in coming to my own cases, only four in number, in the hope that in the light of the wider experience of some of the authorities I have quoted, many details of my cases would have an interest which would be entirely wanting without such illumination. I shall take them in the order in which they occurred :—

Case I.—A civil servant, aged forty-nine, of good personal and family history, came home from his office one day near midsummer, nine years ago (1883), complaining of headache. He went to his office for the next three days, still suffering from headache, and in the afternoon of the fourth day was brought home in a stupid condition. For the next three weeks he had gradually increasing symptoms of what was called "congestion of the brain," and at the end of this time he became comatose. I was asked by the surgeon who had charge of the case to sit up at night with the patient, and from that time to the present I have had him under frequent observation. The coma lasted two days, during which the treatment consisted of nutritive enemata and rectal injections of ether to combat great cardiac depression. Then muscular power and the faculty of speech gradually returned, but for several days the patient had delusions of various kinds. In September he was able to go the country, but on Oct. 10th he came back sick of an illness which ran a similar but less severe course than that just described. In December he had another attack; in March, 1884, another, almost similar to the first one, except that from the stage of delusions he took four months to recover. These delusions were so constant, so organised into the daily life of the patient, that the case presented itself to some of the various consultants who saw him as one of hopeless dementia, with the expansive ideas of general paralysis. Only in August was he fit to move to the country; while there he had an epileptiform attack involving the facial muscles for a few moments, and this recurred several times. In November, 1884, an attack began which lasted till the end of January, 1885; another during February, March, and April; another lasting three weeks in May and June. After a few weeks of convalescence he began again on the 23rd July to suffer from headache, mainly on the right side and in the right eyeball. After a fortnight of this, he fell into a coma which lasted six days; then came gradual awakening, with gradual development of speech, and a period of delusions which lasted three or four days. During all the attacks in which I saw him—and I think I saw all but one—the breath was peculiarly fœtid. During the attacks of 1885 the usual medical adviser of the patient was constantly ill himself, and unfortunately died early in 1886; so that from early in 1885 I began to be largely and increasingly responsible for the charge of the patient. The treatment up to this time had consisted for the most part in the administration of grey powder or calomel and opium for headaches and during the pre-comatose stage of illness; stimulants during coma; sedatives, mainly bromides, afterwards. There was in the mind of my senior a constant struggle between two theories of this patient's disease, one or other of which held sway according to the gravity of the case for the moment; one of these was that of a congestive meningitis or cerebritis—the other, that of hysteria. I mention this, because it helps to crystallise the varying morbid conditions which it presented.

The patient had an attack early in the autumn of 1885, in which I noticed during several days tonic contraction of the left forearm, left hand, and of the thumb into the hollow of the hand—a sufficiently suggestive phenomenon when associated with a headache, which, even though it was often general, seemed always to affect the right side more severely than the left. Shortly after the conclusion of this illness, at the end of August, 1885, I had an opportunity of questioning the patient's wife minutely—feeling, as I did, that something had yet to be discovered to account for the fact that an apparently healthy man should have about every three months an illness lasting about six weeks, which threatened to bring him to a lunatic asylum, if not to the grave. Amongst other facts I elicited one which I had for some short time been guessing at as the source of the trouble—namely, that he was in the habit of using a hair-dye, and that the habit dated from before his first attack. Whenever he recovered sufficiently to move about and receive visitors the dye was brought into requisition. I had the "hair-restorer" analysed, and it was found rich in lead. I now asked its use to be discontinued; saying that if my suspicions were correct, I hoped that the attacks would gradually become less severe, and the intervals longer, and that bye-and-bye, perhaps, recovery would be more or less complete. I said "more or less," because the patient's condition had become by this time a miserable one. He never knew at what instant the fatal headache would seize him and render life unbearable till kindly stupor almost annihilated him. He walked with an ataxic gait; the knee-jerks were absent; he had tremors in the arms, especially the left; his sight had failed a good deal; he could neither walk nor read with pleasure. The heart was healthy, but feeble; the urine at no time contained either albumen or sugar. Dr. FitzGerald examined the patient's eyes for me, and found no ophthalmoscopic evidence of disease.

The subsequent history of the patient may be looked on as an interesting involution of his previous course. In March, 1886, he had the first attack after giving up the hair-dye—an interval of five months. It lasted a shorter period than usual, and there were headache and delusions, but no coma. I did not see the patient during this attack.

The patient shortly after this came wholly under my care, and has remained so since. He had a new attack about Christmas, 1886, which speedily passed off and was mainly characterised by headache. In March, 1887, while in church, he was conscious of some odd feeling creeping over him, and of a foul odour, as it were, in his mouth. His wife noticed that he stared for a few moments before him. She tells me that he has had a similar attack, which I will call an "ill-odour fit," about ten times during the past year. He complained to me that he sometimes gets a headlong impulse in his thoughts, so that, for instance, when playing cards, which he was again able to do, the mention of a number sometimes set him counting to the extent of forgetting the game. In April, 1887, he had a convulsive seizure involving the left side, accompanied by unconsciousness and followed by drowsiness. Next month, I observe by my notes, the ill-odour fits continued. Depressing ideas, with temptations to self-destruction, which had more or less asserted themselves since the great attacks became fewer, now troubled him so much that I feared the development of melancholia. In September I note that he has a somewhat drunken gait, with tendency to walk to the left of the intended course. Attacks of *petit mal* average about two weekly, but the ill-odour aura is less marked than formerly. The left hand is deficient in the sense of touch, so that he readily drops any article held in his left hand unless he keeps looking at it.

I have now no note till November, 1888, when the record stands as follows:—"Has been very well during past year; melancholic tinge almost gone. *Petit mal* not oftener than every third month; headaches gone for past four or five months. Power and sensation in left hand normal (has not been dropping things); sleeps better; takes daily walks of several miles by himself and in company." And I may add that his sight is as good as it should be at his age.

This patient comes to see me from time to time to show me how well he is. Momentary attacks of *petit mal* occur now and again—perhaps once every two or three months. I have attempted to make out whether bromide of potassium had any effect in warding them off, and neither I nor the patient's wife, who has no lack of faith in drugs, have ever been satisfied that it did. Looking back over the long course of treatment which he has undergone, I find that opium, calomel, and iodide of potassium, were the drugs which were most constantly resorted to, and appeared most to deserve our confidence.

This case is then a mixed case of delirium, coma, and convulsions; the last phenomena not severely marked. It illustrates for the first two and a half years the regular occurrence of encephalopathy after a certain dose of the poison; and for the remaining period a constant decrease in, and loss of symptoms, till now nothing remains except an occasional and almost imperceptible attack of *petit mal.* But it illustrates very forcibly the difficulties in diagnosis which such a case may present—difficulties which are a hundred times magnified for the consultant who sees such a case for only ten or fifteen minutes, and sees it under the bias given him by the ordinary medical adviser. A consultant might have seen this case when it resembled nothing but migraine; another when it looked like commencing locomotor ataxy; another when it looked like cerebritis or meningitis; another as a case of acute mania, or one of melancholia with dangerous tendencies, or as an example of general paralysis of the insane.

My next case is one which can hardly be set down as an example of encephalopathy in Tanquerel's sense; but I submit it as a case which was leading up to that condition, as well as, probably, to other disorders; and as an example to justify a larger expansion of that term than that which Tanquerel and subsequent writers have given it.

Case II.—A gentleman, like my first case, in the Civil Service, over sixty years of age, with no previous history of gout, nor any family tendency to it, had what was taken to be a gouty attack in the metacarpophalangeal joint of the right thumb. A year or two later, in December, 1888, he was suddenly seized with weakness in the left hand and left leg, accompanied by a momentary unconsciousness or fogginess of intellect. The weakness was practically gone in twenty-four hours, when I saw him. The heart was very irregular and the urine gave a trace of albumen. On the 7th of January, 1889, the right hand became slightly paretic. I regarded the case as probably one of early renal cirrhosis or of cardio-vascular degeneration; but as I knew the patient was using a hair-dye I forbade its use, and took a sample of it, which was analysed for me by Professor Lapper. He informed me that it was a strong solution of lead, and I thereupon repeated my advice that it should be used no longer. I could not be positive that lead had been in any measure responsible for the gouty joint, the albuminuria, or the pareses, but I was sure that it might intensify any of the tendencies which these phenomena indicated. For some months after this attack the patient, in writing, had some visual amnesia. An accurate speaker and speller, he now frequently wrote one word for another and made slight slips in spelling. This was associated with a slight degree of diplopia and amblyopia, which prevented his reading, and for which, later on, I had him examined by the late Mr. D. Redmond, who informed me that there existed no evidence of any ocular defect other than normal presbyopia. Gradually the patient's writing became more accurate; he enjoys his newspaper; there has been no return of paresis anywhere; the heart is now regular, except for a rare intermittence not out of keeping with his age; the urine is normal, and the patient has within the past year passed through a severe attack of influenza—a trying test for any marked renal or cardiac degeneration, if either existed.

We have here recurring motor and probably sensory pareses passing off within a reasonable time after the disuse of a lead-containing hair-dye, and that at an age when morbid tendencies, once set up, are prone to continue even after removal of their cause. The two cases just related are proof, if such were needed, that, contrary to Tanquerel's opinion, lead, like mercury, may be absorbed through the intact epidermis.

CASE III.—M'C., a hard-working Scotch plumber, aged thirty-eight, for a month or two before admission to hospital showed some jealousy of his wife; about ten days before admission complained of headache and loss of memory; got out of bed on January 10th, 1892, and fell on the floor. When his wife came to him she found that he had passed water on the floor, that he had lost his speech, and that the right side was paralysed. He was brought to the Whitworth Hospital on the 14th of January. His subsequent history is as follows:—

Jan. 15th.—Can tell his name; can say the first seven or eight letters of the alphabet, and then tends to repeat H or J indefinitely. The speech is slightly tremulous. There is twitching, at the rate of about sixty times in the minute, in the muscles of the right cheek, lower eyelid, right side of nose and upper lip, in the right pectoral muscles, and in the right arm, forearm, and fingers, and in the right thigh, calf, and peroneal muscles. He can obey directions, such as to put out the tongue, look to one side, and so on; and names a chair, a bottle, pen, and two-shilling piece when his attention is concentrated on them. The right pupil is very slightly larger than the left; both accommodate for light and distance. The movements of the eyeballs are perfect. He sees well, but does not catch and follow an object presented on his right side, and does not see it till it passes the middle line to the left. No tenderness on percussing the scalp. There is apparently full power in the left arm; he can barely raise the right arm off the bed. Similarly with the legs; left leg normal, the right is raised with difficulty and after much exhortation, and is dropped soon. The general muscular system is well developed. The plantar reflexes are present, but dull. Knee-jerks equal and almost increased; no ankle clonus. The breath has a fœtor like that due to mercury; the teeth and gums are remarkably healthy; no lead line on the gums. The urine drawn off by catheter thirty hours after admission, having been retained till then, was acid, of specific gravity 1030, and contained neither albumen nor sugar.

16th.—When put in the erect position to-day he cannot stand without support. His weight is thrown upon the left leg; the right leg is held close to the left, and the foot is held inverted. Has incontinence of urine and fæces.

18th.—The twitchings gone to-day. Incontinence of fæces ceased to-day, and constipation succeeded. The diagnoses offered to the class at this stage were three—namely, an unusual form of general paralysis of the insane, syphilitic disease of the brain or its meninges, and lead-poisoning of the brain. There were no marks on his body suggestive of former venereal disease, but he was put on mercurial ointment and iodide of potassium as a diagnostic measure.

21st.—The breath still fœtid, and the gums being now sore, the mercurial ointment was discontinued. There is marked improvement in the grasp of the right hand, and the right leg can be drawn up or raised completely off the bed. He can say the "Our Father," when helped, off perfectly; but is still inclined to repeat a previous impression, as to say the alphabet a second time when bidden to say the "Our Father." A curious disturbance of sensibility was noticed on this date, but circumstances allowed it to be better defined on the 27th of January, as follows:—

27th.—When asked to catch his beard, nose, ear, or moustache, he mistakes one of these for another, or a fold of the bedclothes for any of them; and this with his eyes open. Thus, for his nose he catches the malar prominence; for an ear he catches perhaps his shoulders or the bedclothes. He frequently shows a tendency to reverse sides (allocheiria), both in act and speech; thus, while he can wink with the right or left eye as directed, he maintains that he can rub his chest better with his right hand, and on being bidden to do so uses his left. A similar condition is present in the legs.

30th.—With his eyes shut, he can name a coin after manipulating it with his left hand—not so with the right hand. He has a fair idea of the position of places where he is touched on the left arm, but is quite at a loss on the right arm. In the legs he constantly reverses the names right and left.

Feb. 3rd.—To-day he counts to fifty, says the alphabet and "Our Father" accurately, and is able to give a good account of himself. He says that he has been working in country houses in the county of Cork, largely at lead-roofing; also that he has been a teetotaller for the past eight years, but used to drink heavily before that time.

11th.—Appeared almost well this morning up to noon. Shortly afterwards it was noticed that he could not speak, and between this and 8 p.m. he had twelve general epileptiform attacks, in which the left side was, however, most engaged; there was right conjugate deviation of the eyes.

12th.—Fewer fits than yesterday, but his head kept moving from side to side, and his hands were in a state of spasm most of the day.

14th.—The eyes are drawn upwards and to left, with frequent winking. Speaks fairly rationally, can count and say the alphabet, but stops short in the "Our Father." He has some paresis in left arm and leg.

15th.—The right leg can be drawn up in response to exhortation supplemented by slapping; the left is not moved by any stimulus. He does not move the left arm when ordered, though later on it is held out while he sings. Whilst under observation to-day the right leg is frequently drawn up and strongly adducted. The eyes are deflected to the right, and the head is more or less constantly turned a little to the right. He states that he has no pain; he keeps up a somewhat musical drone. When asked he sings, in a somewhat broken voice, "Weep not for me, dear mother," "Champagne Charlie," and portion of "Auld lang syne;" during the singing all convulsive movements disappear except an up and down motion of right knee and the right conjugate deviation. There are several bullæ on the back of the left thigh.

16th.—To-day he is lying without spasm, though the head is retracted and buried in the pillow, so as to suggest a strong contraction of the posterior muscles of the neck. He speaks intelligently and attempts to obey orders, but seems to have little or no sensory guide in doing so. Common sensation and the muscular sense seem equally deficient. As before, he is quite unable to touch his nose, his elbow, or his beard; he will hold on to his lower eyelid and call it his beard or ear with equal complacency. His movements are accompanied by a histrionic expression which would make his failure of achievement ridiculous were it not so pitiable. Thus, asked to squeeze my hand, he acts with mouth and body the giving of a vigorous squeeze, while his hand is merely closed on itself. Asked to look at an object, he fixes his gaze and strains, but apparently sees nothing—nay, when asked to grasp his nose tightly, though it is his elbow or the blanket which he holds, he speaks for the moment "through his nose." There is no squint to-day, the pupils quite central.

18th.—To-day conjugate deviation upwards and to left; the eyes follow the movements of the head, but always return to the squinting position. He sings well to-day. He volunteers to dance a hornpipe for us, accepting the suggestion that he is standing on the floor; but as he does not find his efforts resulting in a dance, he thinks of the explanation that his trousers are too tight for dancing.

22nd.—Is able to-day to name a key, a hand, a handkerchief, and other objects held before his eyes, but throughout the whole course of his illness he sees nothing in the right visual field. I was able to examine his eyes one day, not recorded in the notes, and could find no evidence of optic neuritis or atrophy. The condition of the patient up to this may be summarised as follows:—Epileptiform attacks at admission and four weeks afterwards; right hemianopia; cheerful disposition without delusions as to his personal history or capabilities; certain spastic or paretic conditions of ocular muscles and of limbs, varying from time to time, and great disturbance of common sensation, in so far at least as it is an adjunct to muscular effort. I pass on to the 21st of March.

March 21st.—Right pupil larger than the left. He cannot sing so well as formerly; he counts well, but spells not so well as formerly, tending now to phonetic forms. He accepts any sensori-motor suggestion, as that he is playing the banjo—he takes the edge of the sheet and calls it the strings; his left elbow is the body; a pinch out of his shoulder is, he says, the bridge; but when no sound comes he confesses that he cannot remember how to play the instrument. He is hurt when I pull the hairs on his forearm, but he cannot tell where I hurt him or what I am doing. He is able to judge between heat and cold; and seems to turn towards those speaking to him more than he did formerly. On the 31st of March he had a series of epileptiform attacks like those previously described. The temperature, what had previously been normal, rose this evening to 105·8°. The fits lasted about four hours.

Next day, April 1st, there was right conjugate deviation of the eyes;

pupils not accommodating for light, and moving from side to side through perhaps two or three millimetres; limbs flaccid; breathing stertorous. The temperature varied from 100·5° to 101°. He died early on the morning of April 2nd.

The autopsy was made about four hours after death. Body well nourished; no external signs of syphilis; two or three bullæ on the feet at pressure points. Thoracic and abdominal organs apparently quite healthy. Calvarium easily separated from dura mater; no signs of fracture or necrosis or other disease of skull, except that it seemed unduly thin and transparent at a Pacchionian depression behind the coronal suture to the left of the middle line. On removing the dura mater the arachnoid is seen to be somewhat distended by fluid, the convolutions are pressed apart, and at some places in both hemispheres, but more especially in the left parietal lobe a cystic appearance is produced by more or less globular collections of fluid between the arachnoid and punched-out-like depressions in the cortex. No sign of hæmorrhage or meningitis. The brain with adherent arachnoid and the contained fluid weighs 40 ounces.

Spinal cord: a good deal of fluid about it, which about the lower dorsal region has almost dissected the chief columns apart, much as in the brain it separates the convolutions.

Professor Lapper very kindly undertook an analysis of some of the organs for me, and reports the result as follows:—

"I have completed the analysis of the portions of liver and kidney you sent me. I have found traces of lead in the liquid in which they had been preserved, and after washing free from the liquid I discovered small but unmistakable traces of lead in the liver and kidney. I have found more than a trace of lead in the cord."

Dr. H. C. Earl made a histological examination of a portion of a convolution whish was depressed by the effusion, and he supplies me with the following statement:—

"There is no atrophy of the nerve-cells or nerve-fibres of the cortex. There are, however, certain appearances in the sections which are very remarkable. In the deeper part of the cortex the neuroglia-cells are deeply pigmented, of a dark brown or black colour. Both the body of the cell and its processes are thus affected, the cells presenting almost exactly the appearance that they do when stained by corrosive sublimate after the method of Golgi. The region in which the cells are thus affected is limited to a comparatively small part of the sections. In the same area the capillaries are pigmented in a similar way to the cells. Their walls are brown or black, with here and there non-pigmented portions and oval black masses, which seem to be the nuclei of the endothelial cells, are to be seen at intervals. The capillaries in some places appear to be blocked up with masses of pigment, but of this I am not quite certain. I am unable to come to any conclusion as to the nature of the pigment."

I have detailed the preceding case at greater length than was perhaps necessary for my main purpose, because it seemed to present a rare combination of sensory, motor, and mental phenomena. To recall but one of the difficulties which it presented: how are we to explain the fact that a man, with eyes open, names a pencil, knife, or hand presented to him, and takes a coin and feels it well, and names it rightly a florin or a shilling, and at the next moment catches a fold of the bedclothes and calls it his nose?

Case IV.—My last case is that of a house-painter, admitted to the Whitworth Hospital on the 23rd of last September (1892). He suffered from lead colic six years ago, and again a year and a half ago. He had on admission a well-marked "blue line" on the gums, but it has since gradually disappeared. He complained of severe and constant parietal and occipital headache, which, he said, was "driving him mad." The headache still continues, but is less severe and more confined to the occipital region than formerly. Three weeks after admission, and while taking iodide of potassium, he had a general epileptiform seizure, in which the head and eyes turned, in the early portion of the fit, to the left. That is the only epileptic attack of which I can get any history. He has some albuminuria, notwithstanding which he is taking, with concurrent improvement, two drugs which ordinary subjects of Bright's disease bear badly—namely, iodide of potassium and opium.

I venture to put forward a classification of the symptoms of saturnine encephalopathy which will have the merit of simplicity, only premising that any combination of such symptoms and a wide range of variability in the mode of onset and the progress of the case are possible. The phenomena may be—

A. Motor—general or partial in extent; paretic or convulsive in character.

B. Sensory—local or widely diffused; common or special in character.

C. Mental—difficult to be classified, but usually falling under one or more of the following forms:—

  a. Hysterical.

  b. Delirious, simulating acute mania; quiet or furious in character.

c. Delusional; presenting types akin to chronic delusional insanity; general paralysis of the insane, or melancholia.

d. Stuporose or comatose.

This classification broadens out the signification of saturnine encephalopathy so as to include, as it ought to do, all the phenomena of cerebral poisoning by lead, whether the disease stands out as a distinct individuality as in Tanquerel's case, or manifests itself, for instance, in a general paralysis indistinguishable from that ascribed to syphilis or intemperance, or a transient hemiparesis such as occurred in my second case. On the other hand, it would not be applicable to head symptoms only secondarily associated with lead, such as a cerebral hæmorrhage resulting from vaso-renal degeneration caused or accelerated by chronic plumbism. I had under my care a few years ago in the Whitworth Hospital another Scotch plumber, who, about a fortnight before, had fallen in a fit while working on a lead roof in a country house, and who presented the typical mental picture of general paralysis. He went from me to the Richmond Asylum, and I believe ran the ordinary course of the general paralytic. I have no proof that his condition was due to lead-poisoning, but I think it was at least as likely to be the cause as those one usually looks for. He was an elderly man with grown-up sons, was not a heavy drinker, and was in constant work and therefore constant contact with lead. Whatever the cause in this case, lead-poisoning is a well-recognised cause of general paralysis, and I have shown by my first case that it may set up a pseudo-general-paralysis and a transient melancholia, from which recovery may ensue on withdrawal of the cause. Clearly, if general paralysis or melancholia be producible by lead-poisoning, these conditions, when so produced, must take rank under the general term encephalopathy.

When, in persons who have been in any way subjected to the influence of lead, any group of symptoms, such as I have detailed, present themselves, without other readily ascertainable cause, the physician should ask himself whether lead is *the* cause, and even though he be unable at once, or perhaps at all, to decide the question, he will, in the majority of cases, be safe in forbidding further contact with lead. For even though lead be not the prime agent in producing the morbid condition, one is justified in suspecting that it will be likely to aggravate it.

For the diagnosis of a lead-causation of cerebral symptoms, a course of iodide of potassium will be of use, though it is subject to two disadvantages—it may, for a time at least, make the symptoms worse, and it does not help us to eliminate the suspicion of syphilis. I need hardly add the truism that even if the symptoms seem to be bettered by the iodide, and even if syphilis be completely excluded, it by no means absolutely follows that they were due to lead.

The aim of this paper has been to draw attention to a condition which is hardly noticed in the ordinary text-books, but deserves nevertheless to be kept in mind when dealing with obscure cerebral cases. I have not attempted to make any original suggestions as to its pathology, but I may say that in sections made by myself of the brain of my third patient I noticed that some of the peri-vascular lymph-spaces were full of blood corpuscles, while others had none. This fact, taken in connection with Dr. Earl's observation on the same case, may hint at a direct influence of lead or some lead-product on the smaller vessels and the neuroglia surrounding them; the process occurring irregularly over the cortex, and thus occasioning the inconstancy and atypical character of the symptoms. It goes without saying that I do not maintain that *all* the symptoms noticed in my cases were of *cerebral* causation. I only desire to draw attention to the predominance of the brain symptoms.

ART. II.—*Treatment of Large Arterio-Venous Nævi by Excision.* Also, *Treatment of Epithelioma of the Lip by Excision so as to Prevent its Re-appearance.*[a] With Illustrations. By HENRY O'NEILL, M.D., M.Ch.; President of the Ulster Medical Society, and Visiting Surgeon, Belfast Royal Hospital.

EXCISION of large nævi I consider more suitable than ligature or electrolysis, because—

1. All the nævoid tissue can be more rapidly and thoroughly removed, so that there is not likely to be a re-appearance of the nævus.

2. There is very slight hæmorrhage, and it can be easily prevented or arrested by forcipressure forceps and ligatures.

3. There is no slough left in the wound.

4. The wound heals rapidly.

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[a] Read before the Members of the Ulster Medical Society on the 3rd of February and 9th of March, 1892.

Case I.—William G., aged nine months, a healthy child, was admitted to Belfast Royal Hospital on 24th November, 1891, suffering from arterio-venous nævus of the right loin, between the last rib and iliac crest, the size of a small hen's egg. His mother stated that at birth the nævus was level with the skin, the size of a half-crown piece, and of a purple colour, and had grown rapidly during the past two months. On the 26th November, 1891, methylene was administered by the house surgeon, and the nævus removed by excision in the following manner:—Two hare-lip pins were passed at right angles to each other beneath the base of the nævus, a fine drainage tube was tightly drawn round the base of the nævus beneath the pins. Four silk sutures were passed through the skin and beneath the base of the nævus and the india-rubber ligature. The nævus was carefully excised with scalpel and forceps, each vessel was ligatured, the hare-lip pins and ligature were removed. The slight oozing of blood which occurred after removal of the ligature was arrested by pressure. The edges of the wound were brought accurately together by the four silk sutures. The wound was dressed with iodoform and Gamgee's tissue about every third day, and healed by granulation and cicatrisation, leaving a smooth level scar with no sign of re-appearance of nævoid tissue.

Case II.—Annie B., aged eleven months, was brought by her mother on the 10th October, 1891, to consult me. She was suffering from a large congenital arterio-venous nævus of the left cheek (see Fig. 1). It was the size of half an orange, and measured 3 inches in the vertical and 2¾ inches in the horizontal diameter, involving the entire thickness of the cheek. Her mother stated the nævus was noticed soon after birth as a small swelling on the left cheek, which had grown rapidly during the past two months. On the 14th October, 1891, methylene was administered, and, assisted by Dr. C. O'Neill and Mr. Clokey, I made a vertical incision 2½ inches long, through the skin over the centre of the tumour, and carefully dissected the skin and fascia from the nævus; the vessels entering the nævus were caught with Well's forceps, ligatured, and cut across. The entire nævus was excised with very slight hæmorrhage. The edges of the wound were sutured with sterilised silk, a drainage tube was inserted, and the wound dried and dressed with iodoform and salalembroth gauze. The dressings were retained with india-rubber plaister and bandage. The wound was dressed on the second day. The edges of the wound were healed in four days, except the lower end where the drainage tube was inserted. Suppuration occurred, and the wound healed rapidly. A few superficial vascular spots remained at the edge of the wound, which were removed by the application of nitric acid (see Fig. 2).

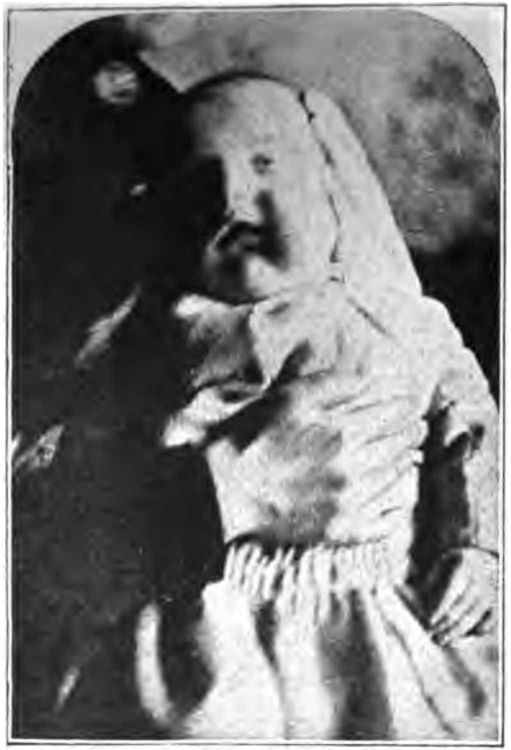

FIG. 1.—Annie B., aged eleven months, suffering from arterio-venous nævus of left cheek (congenital). Photo. taken 12th October, 1891.

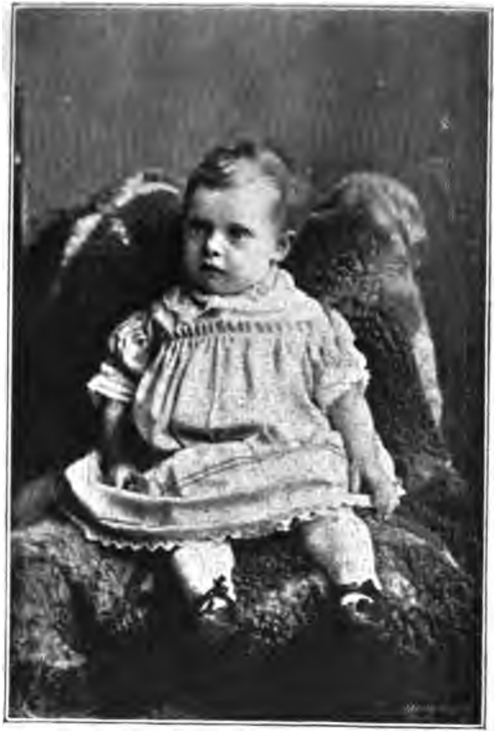

FIG. 2.—Annie B., aged one year and ten months, eleven months after excision of nævus from left cheek. Photo. taken 6th September, 1892.

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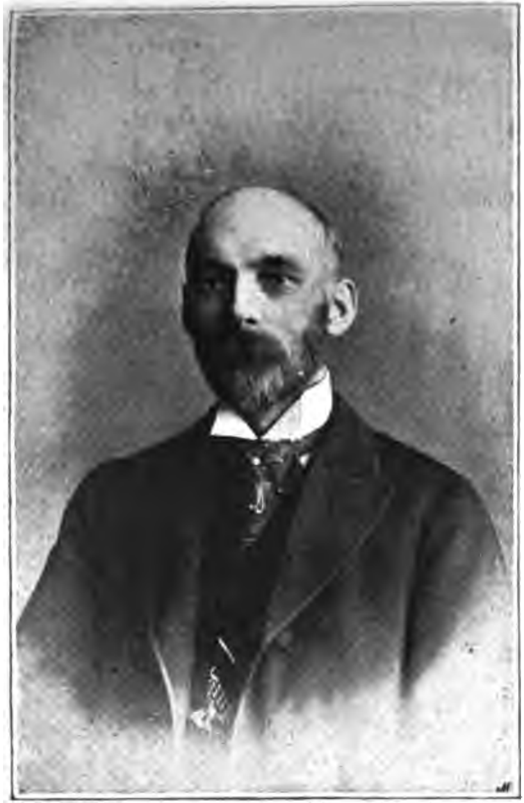


3.—Mr. B., aged fifty-one years, eleven months after excision of 'helioma from lower lip with enlarged lymphatic and submaxillary ıds below left angle of lower jaw. His lower lip was restored by s from sides and base of wound. Photo. taken 2nd September, 1892.

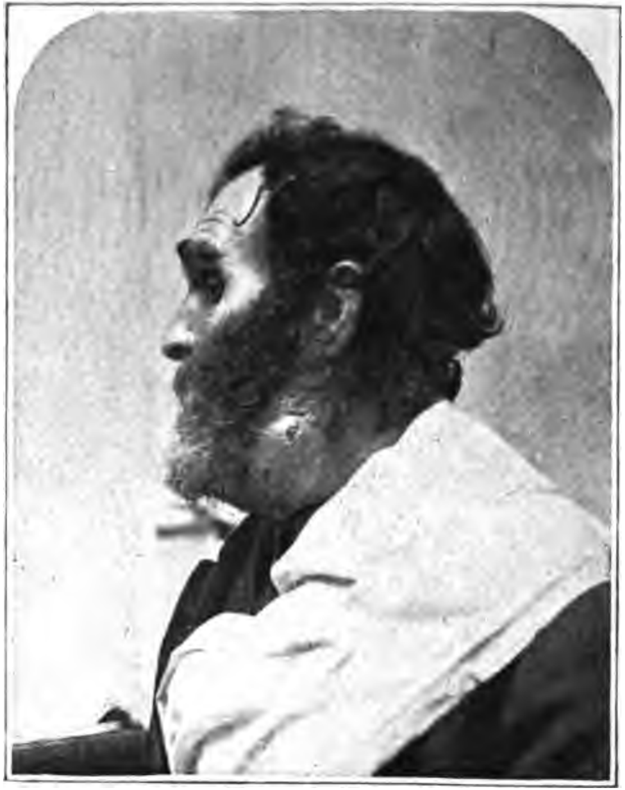


FIG. 4.—Samuel D., aged fifty-three years, suffering from a cancerous mass of lymphatic glands below left angle of lower jaw, and in front of left sterno-mastoid muscle, two years after removal of epithelioma of lower lip by plaister. Photo. taken 19th January, 1891.

jaw, placing the flap from the right side above the one from the left, and supporting the lower border of the left flap by the skin and tissues raised from the front and under surface of the body of the lower jaw, and suturing them together with sterilised silk. There was suppuration from the lower wounds, but the parts healed rapidly. He can close the upper lip closely against the lower lip except for a slight dimple at the middle of the latter. The lower lip is quite movable, and the free margin is smooth and even. He speaks quite distinctly. His beard has grown on the restored lower lip, and now there is scarcely any difference observable from a normal lip. He complains of a hot feeling in the lower lip. He is in good health, and there is now (9th March, 1892) no evidence of any re-appearance of the cancer in the glands under the jaw, or in front of the sterno-mastoid muscle (see Fig. 3).

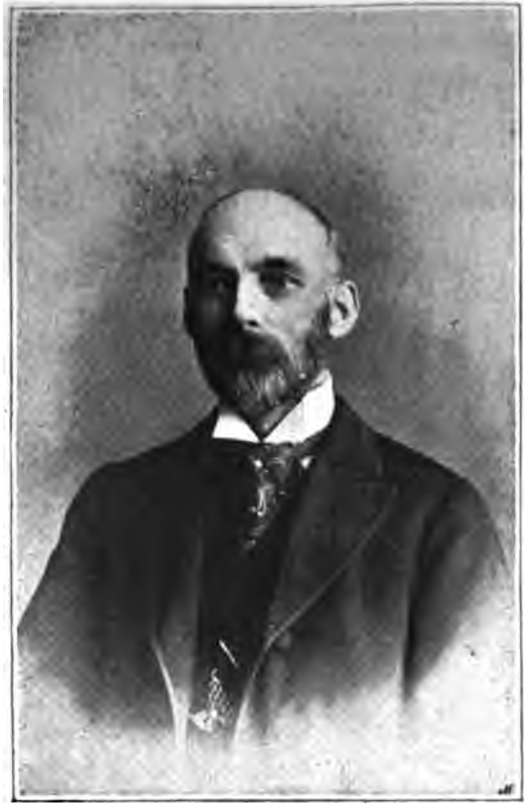
NOTE.—2nd September, 1892. Photo. taken (Fig. 3). Patient is in good health. There is no sign of any re-appearance of the epithelioma.

CASE II.—19th September, 1887. Mr. H., aged seventy-five, farmer. General health good. Suffers from epithelioma of right angle of mouth, extending into the cheek, and along outer third of each lip. The ulcer appeared about one year ago, and was caused by excessive smoking. The glands beneath the right angle of the jaw were not enlarged. To-day, assisted by Messrs. Woods and Thompson, chloroform was administered, and I excised the epithelioma with half an inch of the surrounding healthy tissue. The wound was sutured with silver wire, and was completely and firmly healed in three weeks, when he left for his home.

NOTE.—16th August, 1892, four years and eleven months after the operation. To-day I saw and carefully examined the patient. There is no sign of any re-appearance of the epithelioma. He is in good health, and is able to attend to his usual duties on the farm.

CASE III.—24th November, 1889. Mr. Robert H., aged thirty-five, married, carpenter, temperate. Had syphilis seven years ago, and was treated for this affection for about one year. He smokes tobacco freely, and uses a pipe with a wooden stem. About six months ago the mucous membrane of the lower lip was often caught in a crack in the stem of the pipe, and caused a sharp pain at the time. He considers this was the cause of the small blister which appeared on the right side of his lower lip, followed by an ulcer which scabbed over. The scab was often removed by the hot cracked stem of the pipe.

The ulcer is the size of a split pea, with hard elevated edges, base unhealthy, secreting pus freely, and spreading towards right angle of mouth. He feels a sharp stinging pain in base of ulcer, which darts towards the right angle of the lower jaw. Otherwise he is in good health.



. 3.—Mr. B., aged fifty-one years, eleven months after excision of ithelioma from lower lip with enlarged lymphatic and submaxillary ands below left angle of lower jaw. His lower lip was restored by ps *from sides* and base of wound. Photo. taken 2nd September, 1892.

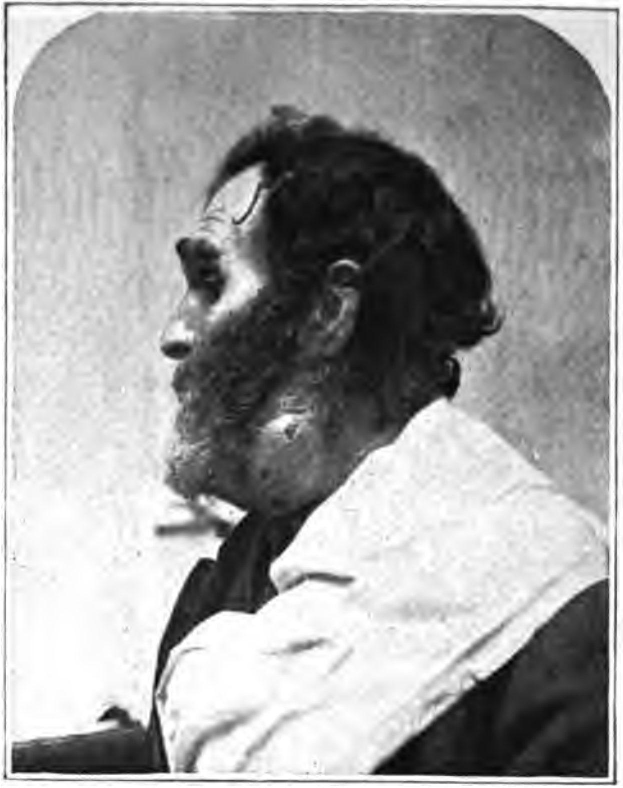
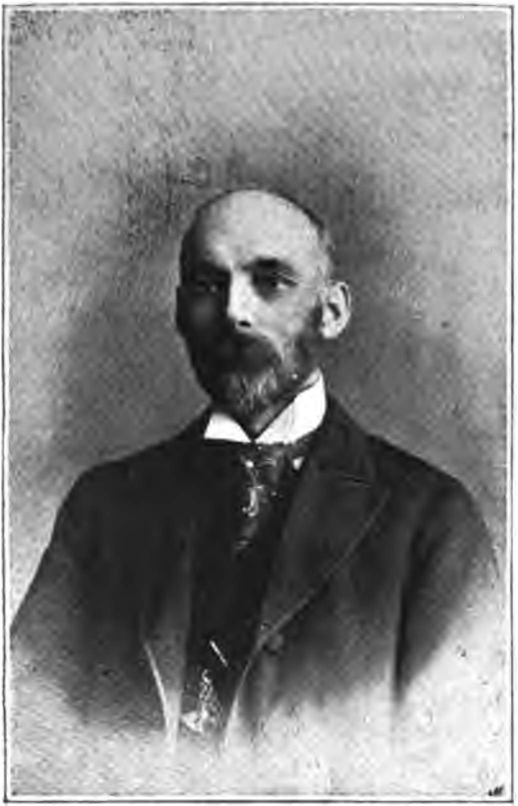


FIG. 4.—Samuel D., aged fifty-three years, suffering from a cancerous mass of lymphatic glands below left angle of lower jaw, and in front of left sterno-mastoid muscle, two years after removal of epithelioma of lower lip by plaister. Photo. taken 19th January, 1891.



3.—Mr. B., aged fifty-one years, eleven months after excision of thelioma from lower lip with enlarged lymphatic and submaxillary nds below left angle of lower jaw. His lower lip was restored by s *from sides* and base of wound. Photo. taken 2nd September, 1892.

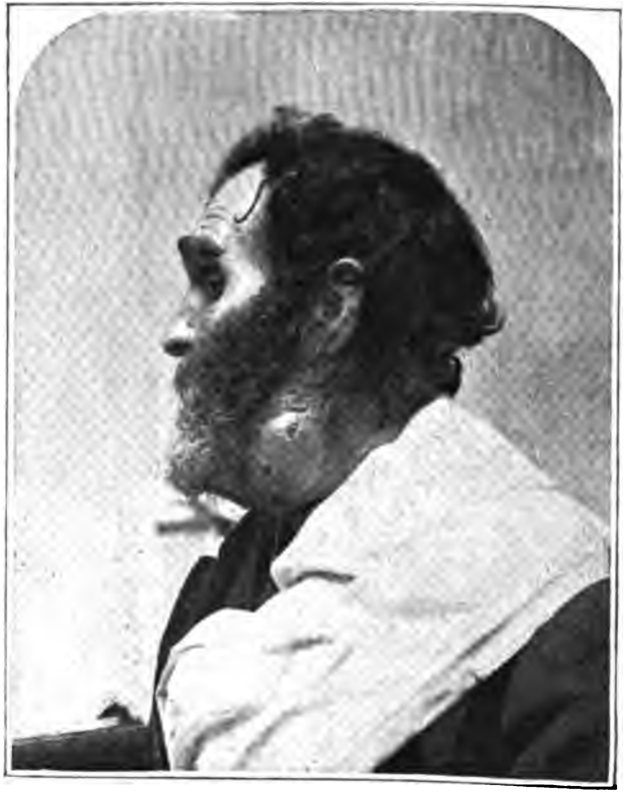


Fig. 4.—Samuel D., aged fifty-three years, suffering from a cancerous mass of lymphatic glands below left angle of lower jaw, and in front of left sterno-mastoid muscle, two years after removal of epithelioma of lower lip by plaister. Photo. taken 19th January, 1891.

On 30th November, 1889, chloroform was administered, and I excised a V-shaped piece from the lower lip enclosing the ulcer and half an inch of the tissue of the lip on either side of the ulcer. The wound was sutured with catgut, and covered with flexible collodion. It was firmly healed in four days.

On 5th July, 1890 (eight months after operation), he again consulted me. I found him suffering from a painful swelling, the size of a small bean, below the right angle of the lower jaw, close in front of the submaxillary gland. He noticed this swelling two months ago, and felt it quickly becoming larger.

On 12th July, 1890, assisted by Dr. C. O'Neill and Messrs. Scott and Frazer, chloroform was administered, and the enlarged gland, with the right submaxillary gland to which it was firmly attached, were removed. The facial artery was ligatured where it passes over the upper and posterior border of the gland. The wound healed by granulation.

Note.—7th September, 1892. There is no sign of any re-appearance of the cancer.

The report of the two following cases shows clearly the great tendency there is for re-appearance of the cancer in lymphatic glands nearest the epithelioma of the lip, and the serious consequences to the patient which follow from the neglect to excise these glands at the same time as the primary cancer of the lip.

Case IV.—29th January, 1891. Samuel D., aged fifty-three, sailor, was admitted to the Royal Hospital, suffering from a mass of cancerous glands, the size of a small orange, below the left angle of the lower jaw, and in front of the sterno-mastoid muscle (Fig. 4). He suffered two years before from an epithelioma of the left side of the lower lip, caused by smoking. A plaister was applied to the ulcer by a "Cancer Curer," which removed it. The swelling of the submaxillary glands appeared about two years after the epithelioma of the lip had been removed. The glands suppurated, and free venous hæmorrhage occurred on 29th January, 1891, from the suppurating mass of cancerous tissue in the neck, which was arrested by the application to it of a firm pad of lint saturated with liq. ferri perchlor. He left hospital in a few days, but soon after he went to the Belfast Union Hospital, and died there on 14th February, 1891, from a return of the hæmorrhage from the cancerous ulcer of the neck.

Case V.—Joseph M'C., aged fifty-eight, flax-dresser, was admitted to the Royal Hospital, on the 1st December, 1890, suffering from a cancerous tumour of the left side of the neck, below the left angle of the lower jaw, and in front of the sterno-mastoid muscle. The tumour was the size of

a bantam's egg, and very painful. He stated he had an ulcer of the left side of his lower lip excised in January, 1889, and also an ulcer of the right side of lower lip excised on 10th June, 1889. The surgeon who excised the ulcers of the lip told him they were cancerous. He first noticed the tumour of the neck about August, 1890. The tumour suppurated, and burst on the 6th April, 1891. Profuse hæmorrhage occurred soon after, and he died next day (7th April, 1891) from exhaustion.

ART. III.—*Arrest of Development in Intra-uterine Life.*[a] By J. S. M'ARDLE, F.R.C.S.I.

THE case which I desire to bring under your notice is one which excited considerable interest in legal circles during the trials of actions arising out of the terrible railway disaster which occurred near Armagh on the 12th of June, 1889. On that day a Mrs. Walker happened to travel in the ill-fated train, and while in the act of rising she was thrown violently on her back against the hard seat of the carriage, sustaining very extensive contusions over the lower dorsal, lumbar, and sacral regions. She was conveyed home, where she was confined to bed for a considerable time, suffering from deep-seated lumbar pains, tenderness along spine, stiffness of the legs, and vesical trouble. From all of these she recovered in time, with exception of the spinal tenderness, which caused her anxiety. On the 1st of December (five months and eighteen days after the accident) she gave birth to a child a little before the full term of gestation had been reached. This child—the claimant in the now well-known Walker case—forms the basis of this communication.

Born on the 1st of December, I had not an opportunity of examining it until the 10th of February, when I found it of average size, and apparently in good health.

Head.—On examining the head I found that ossification was very incomplete, the only bones which showed solidity corresponding to the age being the temporals, supra-orbital parts of frontal and basilar portion of occipital. The remainder of the brain was covered by membrane, and that of very thin character. The deficiency measured 8¼ inches antero-posteriorly; at coronal suture, 4½; at sagittal, 3½—the appearance being that represented by Fig. 1.

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[a] Read before the Section of Obstetrics of the Royal Academy of Medicine in Ireland, November 25, 1892. [For discussion on this paper see page 70.]

There was no protrusion of brain, and the tension was very slight.

Spine.—For the upper two inches the spinal canal was complete. The lower cervical and upper dorsal region was marked by a fluctuating area 4 inches long and 3 inches wide. The lower dorsal, lumbar, and sacral showed a similar condition, the measurement of the defective parts being here 7 inches long by 4 inches wide. The condition is fairly well shown in Fig. 2.

On deep examination I found that the vertebræ in both these regions were devoid of spinous processes, and the rudimentary laminæ could be felt distinctly, the tranverse measurement between them being considerable, as shown by dots in Fig. 2. The stage of development of the neural arches reached between the third and fourth month is roughly shown by Fig. 3. This stage was reached about the time the accident occurred to the mother of this child, and no further progress in development was made until I examined the child nearly three months after birth.

Indeed, I believe no improvement occurred until death robbed the lawyers of the most interesting case which had engaged their attention during many years.

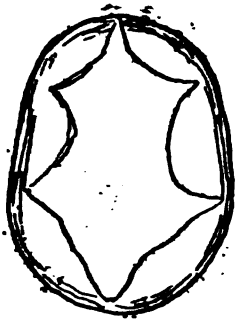

Fig. 1.

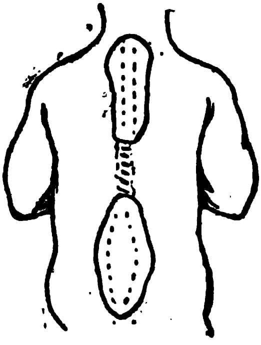

Fig. 2.

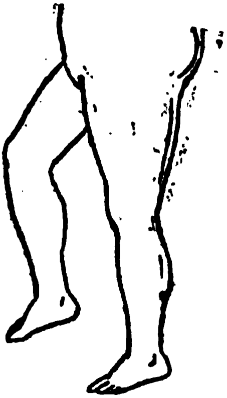

Fig. 4.

Limbs.—The arms were normal, but the right leg showed a curious arrest of development. While the lower part extending to the knee was of fair size when compared with the opposite limb, the femoral portion was so short that one would be inclined to expect a dislocation of the hip. On examination, however, the joint proved to be in a fœtal condition. Motion was perfectly free in every direction, showing that congenital dislocation was not present. The neck of the femur was short, the great trochanter small, and the femur measured two inches less than that of the opposite side.

The appearance of this defect is roughly shown in Fig. 4, where it may be seen that from above the knee downwards the limb is normal.

Taking now for consideration the condition of the skull, we find, as shown in Fig. 1, that although the basilar and lower frontal and temporal regions were fully developed, the upper frontal, parietal, and part of the occipital portion of the calvarium were just in the same position as regards development as they would be normally at the end of the third month. This is especially true about the parietals, which were in a most rudimentary state. Now, the ossific centre for these bones appears about the third month and progresses more quickly than in the basilar portion of the skull, and yet here was a case in which all signs of ossification were absent from the upper part of these structures, showing that growth had been arrested here about the time of the injury.

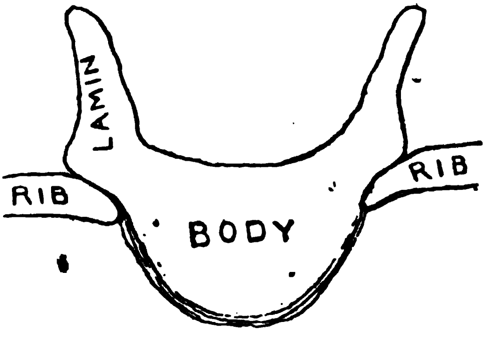

Fig. 3.

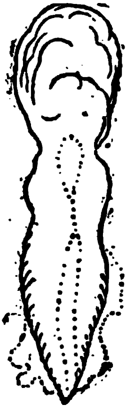

Fig 5

Passing now to a consideration of the spinal lesions described, let me call your attention to the drawing (Fig. 2) which I took from the case related. You will find that in the upper dorsal region the spinal arches have coalesced, while at the junction of the cervical and dorsal and in the entire lumbar areas the neural arch is incomplete. The neural laminæ project directly backwards, showing no tendency to inward growth. Compare this condition observed in the living child with a picture drawn by

Humphreys, and here reproduced, of a fœtus at or about the third month, and you will have conclusive proof that the arrest of development here as in the skull occurred at the time of the injury to the mother. You see that the closure of the neural arches is complete in the dorsal region, the spine being represented by dotted lines, while a double row of dots marks the points where the laminæ stand out, showing no inclination to join. In the accompanying figure, taken from Humphreys' work on the human skeleton, you have a dorsal view of a fœtus of three months, showing that at that time coalescence of the neural arches in the dorsal region has taken place, where, as he points out, "in the cervical, lumbar, and sacral regions there is a considerable interspace between them." The last vertebra in which these arches meet is the upper sacral, and hence the frequency of spina bifida here—that is, arrest of development may occur during a much longer interval in the upper sacral than in any other region; and I now exhibit a case in which, although the spinal canal was apparently perfectly closed, yet long after birth the membranous covering of the cord yielded and a spina bifida resulted.

Fig. 4 roughly represents the difference in the lower extremities. It will be seen that the leg is the same on both sides, but the right thigh is shortened, the arrest of development being confined to the neighbourhood of the hip-joint, which retained the fœtal state which one would expect to find about the third month.

I have briefly described the appearances noticed in February, 1890, and bring the notes of the case before this Section with the hope that I may elicit your opinions as to the correctness or otherwise of the views I hold in regard to this want of proper development in this subject.

The opinion I expressed at the time of the trial was "that the injury to the mother, which necessitated her confinement to bed, lowered her vitality, and thus a lessening of the nutrition (taking place just at the time the neural arches should be closing) is accountable for the imperfection described."

As to the effect of mental emotions in the productions of deformities I can say little. The only birth-mark I saw in all the cases I examined was in the child of a Mrs. Murphy, who was in the early stage of pregnancy (seven weeks) at the time. The lady sustained a severe lacerated wound on the left hand, and in the left hand of the child there were and are subcutaneous streaks corresponding to the parts injured in the mother. On the left side the mother has still evidences of very extensive bruising, and over this area on the child there is a large purple nævus, with here and there brown mottling. It is possible that constant direction of the mother's mind to special parts of her own body, and of how her marks would influence the growth of her baby, may in some way interfere with nutrition. In Mrs. Walker's case she was constantly worrying about her own spine, and wondering if it would injure her child.

Whether the arrest of development I have so briefly brought before you arose in part from this mental anxiety, I leave you, the members of this Section, to be the judges.

Art. IV.—*Extensive Intestinal Ulceration in Typhus Abdominalis Ambulatorius, fatal by Convulsions on the 9th (?) day.*[a] By J. W. Moore, B.A., M.D., Univ. Dubl.; Censor and Vice-President, R.C.P.I.; Physician to the Meath Hospital and County Dublin Infirmary.

On the afternoon of Wednesday, October 26, 1892, Dr. Robert Shaw Wayland telephoned to me to ask whether I could admit to the Meath Hospital a commercial traveller, aged twenty-nine years, who appeared to him to be suffering from enteric fever. The patient was admitted forthwith, but I did not see him until the next morning, when I visited him for the first and only time. Dr. Wayland kindly furnished me with the following particulars:—

Previous History.—When Dr. Wayland first saw Mr. C. J. M'L. some years ago, he was a strong, robust-looking young man, and apparently healthy in every respect. From that time until just before his death there was a history of alcoholism, especially marked within the last two or three years. He complained repeatedly during the past twelve months of dyspeptic symptoms, and on the 17th of last August he had an attack of hæmatemesis. On Wednesday, October 26, at 1 p.m., he called to consult Dr. Wayland at his residence, accompanied by a friend. He looked exceedingly ill and weak. His temperature was taken and found to be 103·0°, and his pulse was 120. The respirations were rapid and shallow. The pupils were slightly dilated. The tongue was thickly coated and his breath was foul. In answer to Dr. Wayland's inquiries, he stated that he had not felt as well as usual for about a week previously. He did not, however, appear very decided upon this point. He said that he had been attacked with slight headache, pains in the abdomen, diarrhœa, and vomiting on the previous Saturday (October 22nd). Some friends, however, remarked that he looked well on that day. On Sunday, the 23rd, he stopped with a friend who informed Dr. Wayland that Mr. M'L. was in good spirits upon that day, but that he suffered from diarrhœa and sickness of stomach, and ate hardly anything. Next day, Monday, he went to the country to resume his business as a commercial traveller, but felt too ill to remain at work and so returned to Dublin on Tuesday, and took a Turkish bath in the evening.

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[a] Read before the Section of Pathology of the Royal Academy of Medicine in Ireland, on Friday, November 4, 1892.

Mr. M'L. was admitted to the Male Epidemic Ward of the Meath Hospital on the afternoon of Wednesday, October 26. At the time of admission his axillary temperature was 105·2°, and his pulse-rate was 114 per minute. Tepid sponging reduced the temperature to 104°, The respirations were hurried—36 per minute—of the cerebral type. When I saw him next morning I was struck by his agitated, nervous expression. He had passed a restless night; the temperature was still 104°; the respirations were again 36, and the pulse had risen to 140. There was albuminuria. The abdomen was tympanitic and tender on pressure, but the bowels had acted only once since his admission. Both liver and spleen appeared enlarged. A glycerine and water compress was applied to the abdomen. It was ordered that the patient was to be thoroughly sponged at least twice a day, and sulphonal was prescribed in two 20-grain doses as a hypnotic at night. He did not live to get even one of these doses.

After tepid sponging, the temperature fell to 103° at noon. The prospect seemed brighter for a time, but as the afternoon wore on, the temperature rose to 104°—notwithstanding profuse sweating, and symptoms of *delirium tremens* developed, accompanied by great restlessness—the patient constantly trying to get out of bed.

At 6 30 p.m. he succeeded in getting out of bed, and while endeavours were made to put him back he became quite rigid. At 7 30 p.m. a violent epileptoid convulsion occurred, attended by permanent loss of consciousness. The fits recurred twice, and in the third attack at 9 p.m. he suddenly expired.

A *post-mortem* examination was held at 11 a.m. of Thursday, October 28, 14 hours after death. No clot or other lesion was found on examination of the brain. The liver was of enormous size. The spleen was also enlarged, but to a less degree. It was darker in colour than usual, but not much softened. The lungs and heart were healthy, nor was any morbid change observed macroscopically in the kidneys. The mesenteric glands were much enlarged, and the mesentery and omentum were loaded with fat. There was no evidence of peritonitis.

But the most remarkable and interesting feature in the pathology of the case was the extraordinary amount and extent of disease in the agminate and solitary glands of the small intestine, while the colon was practically free from disease—the morbid changes stopping short abruptly within the limits of the ileo-cæcal valve. Superficial ulceration had begun in the glands for some distance back from this valve, but higher up in the ileum, for at least seven feet, the stage of *engouement* was markedly present.

BOSTON CITY HOSPITAL.

The Twenty-Eighth Report of this institution covers, for some occult reasons, thirteen months instead of twelve. During that period 7,910 in-patients and 15,560 out-patients were treated. The nominal capacity of the hospital is 480 beds, but it accommodates 495 sick at one time, the daily average being 419. Dividing current expenses by number of in-patients gives a little over £2 as the weekly cost of each. Private paying patients contributed £3,426. In the medical wards the prevailing disease was enteric fever, of which 428 cases were treated, with 41 deaths. Pneumonia came next, with 305 cases and 100 deaths, and then pulmonary phthisis, with 294 cases and 73 deaths. In the "contagious service" diphtheria supplied the largest number of cases—237—with 105 deaths; besides 25 cases of combined diphtheria and scarlet fever, of which 11 were fatal, scarlet fever alone gave 164 cases and only 6 deaths.

VITAL STATISTICS OF TOTAL ABSTAINERS.

It is interesting to learn that the Annual Report of the United Kingdom Temperance and General Provident Institution for 1891 confirms the experience of the previous twenty-five years. In the Temperance Section the expected deaths were 321, and the actual deaths 240, or 70·8 per cent.; in the General Section the expected deaths were 386, and the actual deaths 425, or 110·1 per cent. The total deaths in the twenty-six years in the Temperance Section were 3,663—that is, 70·7 per cent. of the 5,177 expected deaths; in the General Section they amounted to 7,034, or 97·5 per cent. of the 7,277 expected deaths.—*Medical Record.*

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Surgical Diseases and Injuries of the Stomach and Intestines. By F. BOWREMAN JESSETT, F.R.C.S.; Surgeon to the Cancer Hospital. London: Baillière, Tindall & Cox. 1892. 8vo. Pp. 327.

STIMULATED by the experimental researches of Senn, and the flood of light they shed on intestinal surgery, Mr. Jessett, as he tells us in the preface, was led to pursue a series of investigations in the same direction, and travelling upon similar lines. These experiments were carried out partly at the Brown Institute, with the assistance of Professor Victor Horsley, in 1889, and partly in the laboratories of the Royal Colleges of Physicians and Surgeons during the past year. The results thus obtained were embodied in a course of lectures delivered at the Cancer Hospital, which formed the nucleus of the present work. In revising and enlarging them the author has availed himself of all the latest results obtained by home and foreign workers in the same field, and has produced a most thorough and up-to-date monograph on one of the most important and interesting branches of modern surgery. For the thoroughness of detail and the carefulness of description we cannot give too much praise; we are sorry we cannot do the same for the style in which the work is written. Much may be attributed to hasty production and oversight of printers' errors, but that can hardly excuse the many solecisms and faults of style with which the pages abound. The opening sentence reads:—"The rapid strides made of late years in abdominal surgery *has* led many surgeons to consider whether the operative treatment of the stomach and intestines cannot be so improved as to compare favourably with such operations as ovariotomy, hysterectomy, nephrectomy, and the like. It is to Professor Senn, of Milwaukee, that the *populace* and the profession are indebted, &c." We must object also to the adoption into our language of such a vile Americanism as "surgical trouble" of the stomach. We meet with "sarcini ventriculi;" "liniæ similunaris;" the "splenic flexure of the *cæcum;*" "coffee-ground *consistency;*" "protectomy" appears for "proctectomy" all through the chapter dealing with excision of the rectum; and the author throughout apparently recognises no distinction between "ilium" and "ileum," as he constantly uses the terms interchangeably—"ilio-cæcal valve," and "crest of the ileum." Many other grammatical solecisms might be pointed out, but these are sufficient for our purpose, to show the need of careful revision that exists when issuing another edition. It is because the book is so good from a surgical point of view that we wish to see it otherwise perfect; and it will be much more readable, and not less instructive, if in the next edition Mr. Jessett will confine his experiments to animals alone, and not extend them to our mother tongue.

In the first chapter Surgical Diseases of the Stomach are dealt with under the heads of "carcinoma, sarcoma, ulcers, foreign bodies, fibrous contraction, contraction of cicatrices, and pressure of tumours"—a very complete list. Tables showing the relative frequency and the situation of these various diseases are given, and will be found most useful for reference. The various operations are fully and, for the most part, accurately described. The following, however, cannot be taken as an accurate description of Von Hacker's operation of gastrostomy—"the fistulous opening is established in the middle of the rectus muscle." The true site is "the upper central part of the left rectus muscle"—the twofold object being to avoid tension on the sutures, and to obtain a sphincter-like action by means of the longitudinal fibres of the rectus. Of Hahn's ingenious method of performing gastrostomy a full account is given; and in its originator's hands it has been so successful that it certainly seems to merit further trial. In dealing with pyloric obstruction, due to malignant disease, preference is given to combined pylorectomy and gastro-enterostomy over simple excision, and direct suture of the stomach and duodenum. In dealing with pylorectomy Rydygier (*not* Rydyger, as Mr. Jessett writes it throughout) is wrongly credited with the first operation. The first operation was done by Péan in 1879; the second a year later by Rydygier: both unsuccessful; while the first successful operation was performed by Billroth—the surgeon with whose name it is especially associated—in 1881. Considerable space is also given to a lucid account of Heinecke's operation of pyloroplasty.

The second lecture deals with Diseases and Injuries of the Intestines. Here the same fulness and attention to detail are apparent. But we would remind the author that cylindrical-celled epithelioma and cylindroma are totally distinct, and not identical tumours, as is suggested on page 88. The various methods of performing intestinal anastomosis—by implantation, by Senn's decalcified bone-plates, by Abbe's rings, by Brokaw's segmented rings, or by the author's modification, are all fully described, and cannot fail to present to every operating surgeon a concise summary of the various methods of treatment, and the results so far obtained by each.

In the third lecture the Operative Treatment of Perforating Typhoid Ulcer is discussed, and the author expresses himself strongly in favour of it in suitable cases. Systematic search of the intestine from the cæcum backwards is recommended, until the lesion is found. "In nearly every case such an ulcer occurring in the small intestine would be in a longitudinal direction; hence the entire ulcer can be turned into the bowel, and the peritoneal surfaces approximated by introducing a row of Lembert or quilt sutures beyond the lateral borders. This is undoubtedly the best method of dealing with most perforations, or ulcers about to perforate." In support of his views Mr. Jessett quotes a case recorded by Dr. Van Hook, in which the operation was successful, along with two in which it was unsuccessful; and we believe that this mortality of 33 per cent. in three cases is below the average. We would point out the late stage at which perforation usually occurs in a case of enteric fever, the marked enfeeblement of the patient's constitution and vitality, the difficulty of finding the perforated spot without prolonged exposure adding to the already existing grave collapse, and finally, should the spot be found, the almost impossibility, known to all pathologists, of finding around a perforated ulcer sufficiently healthy tissue to bear the strain of sutures. A further point against operation in such cases is the fact that even after finding and closing two or even more sites of perforation, there may be left behind several ulcerated Peyer's patches, which are just on the point of rupturing without showing any marked signs on the peritoneal surface.

In this lecture Mr. Jessett also deals with the surgical treatment of appendicitis, and we are pleased to see the sound and truly surgical standpoint from which he views these cases. "After a careful consideration," he writes, "of the views advocated by different surgeons, I think we must be guided by the exigencies of cases as they come before us; and from my own experience, which extends over a large number of cases, I think *the surgeon who leans to the side of caution* will have every reason to be satisfied . . . I would then advise you *not to be deluded into recommending too early operative procedures*, as in many cases they may be unnecessary, the patient recovering without them; and further, it must be remembered that *such operations are not free from risks in themselves.*" We have emphasised these remarks believing that the present tendency is to unduly hurry Nature in the treatment of these cases, and then to blame her for an untoward result which ought really to be laid at the door of meddlesome surgery.

Lecture IV. deals with instruments, the accessories of operations, the various modes of operating, and the general *technique* of abdominal surgery. Most of the instruments required are figured, as well as the various modes of intestinal suture, and approximation plates of different kinds. A description is also given of the method of "omental grafting" as recommended by Senn, and practised with success in several cases. A short account of the different forms of colotomy is also included, the writer showing a decided preference for the inguinal over the lumbar operation. But this is a preference now almost so universally recognised—except by some surgeons of an antiquated school—that it hardly merits notice. An exceptionally meagre and useless index closes the work.

Apart from the strictures with which we opened our notice, we have nothing but praise for a book which adds lustre to the practical side of British surgery.

Anæsthetics: their Uses and Administration. By DUDLEY WILMOT BUXTON, M.D., B.S.; M.R.C.P.; M.R.C.S. Eng.; Administrator of Anæsthetics and Lecturer in University College Hospital, the National Hospital for Paralysis and Epilepsy, Queen's-square, and the Dental Hospital of London. Second Edition. London: H. K. Lewis, 136 Gower-street, W.C. 1892.

THE present edition of Dr. Buxton's book contains fifty pages more than the previous one. This extra space is principally occupied by an account of the author's method of alternating nitrous oxide and ether vapour for anæsthesia. Under the title "Anæsthetics," the author really prints a plea for the displacement of chloroform by ether.

Dr. Buxton is a thoroughgoing advocate for ether. According to him, chloroform is a cardiac poison, producing dilatation of the cavities and *delirium cordis*; and, although the Hyderabad Chloroform Commission "came to conclusions at variance with these statements," yet he believes "that the conclusions at which the Commission arrived are open to objection, since, in the first place, their experiments were too few." Now the experiments were 600 in number, and they were supported by the clinical experience of Surgeon Lawrie's 46,000 cases. What does Dr. Buxton require? Men will, however, deliberately shut their eyes to facts, like the blind man of the Vanity Fair jury, who said, "I see clearly that this man is a heretic."

Two Commissions sat in Hyderabad, with the express object of watching the effect of chloroform on the heart; the second Commission had as an expert witness the most distinguished of English therapeutists, and he expressed himself not only as satisfied with the number, variety, and accuracy of the experiments, but actually became a convert to the views of Surgeon Lawrie.

Dr. Buxton lays stress on experiments conducted on protoplasm and frogs, and, nevertheless, refuses to accept the results of the most numerous and carefully conducted series of practical physiological experiments ever conducted. Such a mental state is hard to realise, and is, happily, very rare; yet similar cases have occurred. William Harvey failed to convince Riolanus that the heart propelled blood through the arteries, and one of Riolanus' objections was that he could not accept the single experiment on the opened chest of the dog as against the evidence of so many dissections showing air-filled arteries. With all his admiration for ether, the author confesses that for laparotomy and confinements chloroform is the most suitable anæsthetic, and although he speaks highly of rectal etherisation, he plainly intimates his consciousness of the very unpleasant effects it produces in the following passage:—"Diarrhœa and passage of blood per anum, after rectal etherisation, should be treated by emollient injections containing opium, while the general strength of the patient be attended to, and his collapse treated on general principles."

In telling of the insanity known to occur after etherisation the author brackets the much-prized drug with chloroform, and passes over the unpleasant reference without giving statistics. That nephritis, pneumonia, and meningitis have followed etherisation is not mentioned. We are, however, glad to see that the author recommends chloroform for laparotomies and confinements.

Mr. Samuel Guthrie, and not Soubeiran, is now credited with the discovery of chloroform. But why not acknowledge his indebtedness to Mr. George Foy for the information? Dr. Buxton writes, p. 94, "Chloroform ($CHCl_3$) was discovered by Mr. Samuel Guthrie of Brimfield, Massachusetts, U.S.A., who contributed an article in the *American Journal of Science and Art*, October, 1831, upon 'A Spirituous Solution of Chloric Ether.' This paper was in the hands of the publisher in May, although it was not actually published until October."

Mr. George Foy in this Journal[a] wrote:—"The century was still young when a correspondent of the *American Journal of Science and Art*, edited by Mr. Silliman, drew attention to the fact that a mixture of alcohol and the newly-discovered chloride of olefiant gas was an agreeable and diffusible stimulant. This notice attracted the attention of a reader of, and writer for the Journal, Mr. Samuel Guthrie, Brimfield, Mass., who was then residing in Sackett's Harbour, New York State. His article was entitled, 'A Spirituous Solution of Chloric Ether,' describing its preparation and properties, and reached Mr. Silliman, the publisher of the Journal, on the 8th of May, 1831, having been completed by the author some months previously, and it appeared in October, 1831."

And further on Mr. Foy gave, from Guthrie's article, the description of its manufacture. Of the statistics collected, the death-rate during the Confederate War is placed at 1 in 11,448; this we think far too high. Statistics have come to light which give it as about 1 in 100,000 cases, which some day leisure may allow us to place before the profession.

We have not hesitated to place our opinion of Dr. Buxton's book before our readers, feeling confident that the author, for whom we entertain a profound respect, as one of the ablest advocates of ether, will not misunderstand our object. We find fault with his teaching what we consider an exploded theory on the danger of chloroform, and we feel that he has allowed his enthusiasm for ether to shut his eyes to the great therapeutic value of chloroform—to over-estimate all its risks, and to under-estimate its proven worth.

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[a] Dublin Journal of Medical Science, Vol. LXXXVI., p. 374.

Surgeons who prefer ether will find "Anæsthetics" a useful and reliable book for etherisation, and as such, no doubt, it will find many buyers.

Quain's Elements of Anatomy. Tenth Edition. Vol. II. Part II. By PROFESSOR THANE. London: Longmans, Green & Co. 1892.

WE have already noticed three parts of this work—namely, those on Embryology, Histology, and Osteology; in doing so we almost exhausted our vocabulary of praise. We felt that these three parts contained all that was worth knowing in the above subjects, put in the clearest and most compact manner, and feeling this we welcomed them warmly as a further stage in the upward growth of a great work. While we are of opinion that the present volume, treating of Arthrology, Myology, and Angeiology, has not advanced with such rapid bounds beyond the condition of its predecessor as in the case of the three other parts referred to, still we are satisfied that it is a fit and worthy addition to the series, and we consider it a clear and able exposition of the subjects mentioned according to the views of the present day. Probably the greatest improvement in the first three parts was to be found in the illustrations, which in the volumes on Embryology and Osteology were in great part new, and not only new but as perfect as illustrations can be. In the present volume, on the contrary, the new illustrations are comparatively few, but they are, as a rule, so good that they make us wish warmly for more of their kind. Some few of the new pictures, we think, have not been wisely selected—at least from the students' point of view; for instance, the average student will learn very little from Fig. 317, after His. On the other hand, we think Fig. 308, also from His, one of the most valuable additions in the new edition. We cannot see why Figs. 282, 303, 312, and several others, are still retained; they compare very unfavourably with some of the new illustrations.

The arrangement of the subjects is the same as in the last edition, with this exception—the description of the heart appropriately commences the section on Angeiology; this is a change which we approve; the description of the vessels should naturally be preceded by that of the heart. We cannot say much in favour of the account of the arrangement of the muscular fasciculi of the heart; we fear few students will find it intelligible. The joints are done briefly and accurately as in the past, and a few really excellent illustrations are added. The muscles, with their chief varieties, are fully up to date; the descriptions are clear, full, and sound. Here and there are to be found little points which may not be generally acceptable; for instance, we have often wondered why the statement is made, that the temporal muscle does not arise from the malar bone. Nevertheless, we acknowledge cheerfully that the Myology is done in a thorough and scientific manner, which meets with our full approval.

As to the vessels, many minor improvements will be found—perhaps most prominent amongst them is the alteration in the description of the aorta. In general, they are carefully and accurately described.

We are well pleased with the book before us. We consider it a sound and satisfactory example of the great work of which it is a part.

Fever Nursing: a Course of Lectures on the Nursing required in Cases of Ordinary Fever. By Mary Harris, Matron of the Suffolk General Hospital. London: The Record Press (Limited). 1892. Pp. 67.

A carefully written and judicious little book, which will be a help to nurses, especially to those who have not been trained in a large Fever Hospital. The chapter on typhus, with the notes on its recognition, will be of value to District Nurses.

A Primer of the Art of Massage (for Learners). By Dr. Stretch Dowse. Illustrated. Bristol: John Wright & Co. 1892. Pp. 151.

An excellent little book, giving in a condensed form the more important facts about massage, full attention being given to "the reason why." The various considerations as to the structure and conditions of the human body are dealt with, and the modes of massage and their application to the different portions of the body are given, illustrations being added when required. There is also a very careful chapter on Weir-Mitchell treatment. Though a small book, it is well brought out, and will be useful as a primer for beginners and an *aide mémoire* for others.

Dissections Illustrated: a Graphic Handbook for Students of Human Anatomy. By C. GORDON BRODIE, F.R.C.S.I. The Plates by PERCY HIGHLEY. London and New York: Whitaker & Co. 1892.

THIS is the first of four parts promised; it is devoted to the upper limb alone, the anatomy of which it exhibits graphically in seventeen coloured plates two-thirds life-size, and ten diagrams. There is no doubt, as stated in the preface, that the best picture is the body itself, but the body is not always at hand when the student requires assistance in realising the descriptions in the text-book; at such a time a good practical illustration is a decided advantage. We fear that anatomists are too prone to consider that a student requires no illustrations beyond his dissections; undoubtedly they are the foundation on which his anatomical ideas should be built, but there are times, and even long intervals in the year, when he cannot possibly consult the dissected subject. So it is also with the busy practitioner; he has rarely an opportunity of consulting careful dissections, while it is often necessary for him to look up some point in his anatomy. For such purposes we consider an atlas of the greatest use; at the same time we admit there is the danger of allowing an atlas to take the place of the actual work with forceps and scalpel.

The work before us has been got out specially, we should say, for students; it is portable, clear, and, on the whole, very accurate, and it is issued at a moderate price. Some of the plates are really excellent, particularly those relating to the axilla; they are coloured in the conventional fashion—arteries red, veins blue, &c. The different structures are numbered or lettered, and a key is given on the opposite page; a very short description calling attention to the chief points in the plate is added, with some few interspersed diagrams, which contrast very unfavourably with the well-finished plates. The author rather prides himself on having introduced the outlines of the bones in the diagrams; we agree with him that it is a valuable means of teaching the relations of the bony prominences to the surface, but we think a little more care might have been bestowed upon the drawing of the bones themselves—for instance, in the case of the upper end of the humerus and the coracoid process on page 9. We would also point out a striking disproportion in size between the internal cutaneous and the nerve of Wrisberg in Plate III. We do not like the position of the tendon of the extensor ossis metacarpi pollicis "P." in Plate VIII.; nor do we think the plates showing the palm of the hand quite as good as the others. In the key to Plate XVII. we find the bands passing between the extensor tendons on the dorsum of the hand referred to as "*vinculæ*"; this is unusual.

On the whole, we must say that we think the pictures very good and very truthful, and we believe that the work will be found very useful by those for whom it is intended.

Letts's Medical Diary for the year 1893. London: Cassell & Co.

This handy and popular Medical Diary once more makes its appearance and claims the support of the profession in the future as in the past. We have nothing but praise for this issue of the Diary, which is a veritable "Multum in Parvo."

Notes on the Clinical Examination of the Blood and Excreta. By Sidney Coupland, M.D., F.R.C.P. Third Edition. London: H. K. Lewis. 1892. Pp. 64.

A matured experience enables us to speak in the highest terms of commendation respecting this little book. It is a valuable pocket-companion to the clinical teacher, the practitioner, and the medical student alike.

In the present edition the author has incorporated some important suggestions by Professor Tirard in the sections on the urine, as well as a full description of the use of Dr. Johnson's picro-saccharimeter by Mr. E. Hill, House Physician to the Middlesex Hospital.

Catechism Series. Chemistry. Part I. Inorganic. Edinburgh: Messrs. E. & S. Livingstone. 1892. Pp. 63.

This booklet contains 63 pages and about 500 questions on inorganic chemistry, including the definitions and principles of chemistry.

These questions are in some instances well chosen, and may have some value for local examinations; also some might be useful to a well-educated student on the eve of an examination. As an educational work it is practically useless, and some of the definitions given have to be taken with caution—*e.g.*, the definition of chemistry "as that branch of physics," and of an atom "as the smallest part of an element which can exist in the combined state;" of an acid, "a substance containing hydrogen which can be replaced by a metal."

These are a few of many definitions which are open to criticism—as chemistry is not usually considered as a branch of physics, an atom is more chemically defined as the "smallest portion of an element that can manifest itself by a chemical change." And lastly, with respect to the definition of an acid, many bodies such as ethyl, alcohol, and water, contain hydrogen which can be replaced by a metal, and yet are not acids.

Medical Electricity: a Practical Handbook for Students and Practitioners. By W. E. STEAVENSON, M.D., late in charge of the Electrical Department in St. Bartholomew's Hospital; and H. LEWIS JONES, M.D., Medical Officer in charge of the Electrical Department in St. Bartholomew's Hospital. With Illustrations. London: H. K. Lewis. 1892. Pp. 446.

THIS is a valuable book, written by men who, besides being skilful electricians, were well acquainted with the various uses of electricity in disease.

The work may be divided into three sections—the first theoretical, the second instrumental, the third medical.

The first section gives an account of electricity in general. The laws which govern the electrical current are explained—ampères, volts, ions, &c., are described, and many formulæ are given, the comprehension of some of which requires the knowledge of a considerable amount of mathematics. Section II. gives an admirable account of the construction and mode of action of electrical apparatus of all kinds. All these batteries and machines are described very clearly, their appropriate uses are mentioned, and everywhere practical directions are given as to the best way to keep them in working order, how to avoid failures in their action, and such like. Altogether, this is the best account that we are acquainted with of electrical instruments used in medicine.

The third section is more purely medical. The physiological effects of electricity are described; its uses as a diagnostic agent in disease of the nervous system are fully explained. Then accounts are given of its use in all the morbid conditions in which the galvanic or faradic currents have been employed.

The concluding chapters treat of electrolysis and of the galvanic cautery. The book is illustrated by eleven plates, showing the "motor points," and places where nerves are accessible to electricity, and by 104 woodcuts.

As we said before, we consider this a very well written and valuable work. If we were to take any exception to its arrangement, we would say that, in our opinion, it would have been rendered still more useful if Part I. had been shortened, and Part III. amplified by the introduction of a number of illustrative cases. It is easy to find a good text-book on electricity, while it is difficult to find accurate, reliable, and well-written accounts of the exact mode of employment and effects of electricity in disease; and nothing is a greater assistance to a medical man when about for the first time, let us say, to electrolyse a nævus than a clear and detailed account of how the operation was done by somebody else.

Keep your Mouth Shut: a Popular Treatise on Mouth Breathing, its Causes, Effects, and Treatment. By Fred. A. A. Smith, M.D., C.M. Glasg.; Hon. Surgeon to the Cheltenham Eye, Ear, and Throat Infirmary, &c. London: Baillière, Tindall, and Cox. 1892. Pp. 49.

Although the title of this book, in its form and the rhythm of its words, irresistibly reminds us of the refrain of that comic song which at present we are hearing all day long, and brings up before us the idea of "Get your hair cut," still the book itself is written with a good object, and succeeds in exhibiting the very strong views which Dr. Smith has formed on the subject of mouth breathing. It is important that the public should know clearly that the nose is the natural organ of respiration, and that the mouth is not; and it is right that they should know that mouth breathing often gives rise to unpleasant effects; but we hardly think that many sensible men will agree with Dr. Smith's opinion, that "mouth breathing is the cause, in varying degree, of most of the physical troubles to which civilised mankind is subject."

Although the book is written for the public the author speaks of "removing enchondromas and spurs," of "growths in the shape of enlargements or adenoids filling the naso-pharynx," and uses other expressions which we fear may be not understood.

There is an appendix on the subject of gonorrhœal ophthalmia in infants. The author holds that the Government should adopt some measures for protecting the eyes of new-born infants, and he has a very poor opinion indeed of midwives—"A class of woman whose ignorance, both medical and surgical, is only equalled by her invariable rudeness and her love of gin." But as Dr. Scott does not describe the nature of the disease, the article is unintelligible except to a medical man, and in a popular work is therefore useless.

We would hold a higher opinion of Dr. Scott and of his work were he more temperate in opinion and in language.

A Handbook of the Diseases of the Eye and their Treatment. By HENRY R. SWANZY. Fourth Edition. London: H. K. Lewis. 1892. 8vo. Pp. 536.

THREE times already, within a very few years, we have had occasion to mention this practical treatise, and now the fourth edition requires but little notice beyond the general commendation which we bestowed upon its earlier editions.

The author in his preface tells us that "the book has now again been revised throughout, and brought up to date." "In an appendix Holingren's method for testing the colour sense has been described in greater detail than before," and "some new illustrations have been added."

The book is no longer a small one: 536 pages of fairly close print are occupied, and few subjects of any importance have been omitted, though, of necessity, some have had to receive but imperfect treatment.

The author does not aim at producing an exhaustive work, and says that his great difficulty has been in "saying not all he might but all he ought."

The early part of the book is not altogether the best, and we think that the average student would find difficulty in knowing what Mr. Swanzy meant by his explanation of "the field of vision," page 20. After defining the field of vision, he goes on to explain and amplify the definition as follows:—"Thus if, standing on a hill, we fix the gaze of one eye on some object on the plain below, the field of vision includes not only that object, but many others also for miles around it. *If the fixation object be nearer to us, our field of vision will be proportionately diminished in extent.*" The italics are ours. Of course this is absolutely not so. The extent of the field of vision is determined by angular measurement, and does not depend upon the distance of the "fixation object."

At page 173, Fig. 77 represents, or is intended to represent, Argyll Robertson's operation for ectropion. Anyone who does the operation will, we think, regret it if he follows the drawing or the text regarding the length of tubing to be used. In the picture the upper part of the drainage tube is quite too short, and in the text he is told to cut off the excess of drainage tube about a quarter of an inch beyond the ligature. If this is done the pressure of the cut edge of the tube will, we fear, produce ulceration of the skin and necessitate its removal before a permanent benefit has been obtained. The tube both above and below should be left a good three-quarters of an inch or more beyond the sutures.

On the whole, however, this edition is wonderfully free from errors, and many of the mathematical illustrations have been greatly improved. We still continue to regard it as the best student's Handbook of Diseases of the Eye in the English language.

Semmelweis on Childbed Fever: its Causes and Prevention. By THEODORE DUKA, M.D., F.R.C.S. Eng. Hertford: Stephen Austin & Sons. 1892. Pp. 30.

THIS pamphlet is a review of Dr. Jacob Bruck's monograph on the life and labours of Semmelweis—a name which only in recent years has received the honour and respect so long due, in connection with the clinical history of puerperal fever.

Born in 1818, the youngest son of a merchant in Buda Pesth, Ignatius Philipus Semmelweis entered Vienna University at nineteen to study law, but hearing a lecture on anatomy relinquished this in favour of medicine. Moving, after 12 months, to Pesth, he studied in the University for two years, returning to graduate at Vienna in 1844. An industrious student, he was taken up by Skoda, who, with Rokitansky and Hebra, shared at this time the honours of the Vienna School, and selecting gynæcology as his specialty, he was appointed, in 1846, on the staff of the General Hospital. The mortality at one time—16 per cent.—amongst parturient women at once attracted his notice. The clinique of Dr. Klein, attended by students, having a death-rate of 9·29, while that of the midwives reached only 3·38, set him thinking. He rejected in turn the several theories of atmospheric influence, overcrowding, mental and religious causes, and "local endemic" influences, which were the doctrines of the day—eventually discovering a very potent cause in septic infection, from the analogous symptoms produced by a fatal dissection wound in his friend Prof. Kolletschka. As he said himself, "Kolletschka's fatal symptoms unveiled to my mind an identity with those I had so often noticed on the death-bed of puerperal cases." The study of anatomy being the chief pursuit of the Vienna School at this time, students habitually examined puerperæ after merely washing their hands with soap and water. Semmelweis now insisted on rinsing with liquid chlorine or chlorinated lime-water before each examination, and after six months the mortality fell from 12·24 to 3·04 per cent., and the following year reached only 1·27 in the students' clinique. Under bitter trials and keen disappointment, Semmelweis left Vienna for Pesth, and succeeded to the chair of midwifery in the University. A sad story follows. The combined influences of his alternate discoveries, success, and disappointments told upon him, and he broke down, losing control over himself on the subject of septic infection. He was removed to Vienna, and in 1865 died in his 47th year, like his friend Kolletschka, of the disease he spent his life in investigating—pyæmia, after a poisoned wound in the hand.

In the absence of Dr. Bruck's work, or the "Die Ætiologie" of the master himself, to those who wish to have a short *résumé* of Semmelweis' life, labours, and difficulties, these pages are well worth reading, especially to those interested in gynæcology, and the reviewer has done good service in presenting them in a pamphlet form.

On the Chemistry and Therapeutics of Uric Acid Gravel and Gout: being the Croonian Lectures for 1892, *with Additions.* By SIR WILLIAM ROBERTS, M.D., F.R.S. London: Smith, Elder & Co. 1892. Pp. 136.

THIS is one of the most delightful and perfectly-written books that we have read for a long time. It is written in the most exact and scientific spirit, but such is the charm with which Sir

W. Roberts has invested his subject that the lectures are as interesting as any story. We have thoroughly enjoyed the book and have derived much information from its perusal; we cordially commend it to our readers.

The book is composed of four lectures. Sir W. Roberts first calls attention to the necessity of accurate chemical knowledge concerning uric acid and its salts, if we are to learn how to check its evil effects in the tissues and urine, and then gives an account of his masterly investigations into the subject. He shows that the ordinary amorphous urinary sediment of urates consists neither of neutral urates, $M_2\bar{u}$ ($\bar{u} = C_5H_2N_4O_3$), nor of acid urates, $MH\bar{u}$, but of quadri-urates, $MH\bar{u}$, $H_2\bar{u}$—*i.e.*, of a molecule of acid urate combined with a molecule of uric acid. Full details are given as to the methods of investigation employed, for which we must refer our readers to the original. Sir W. Roberts clearly shows that whenever and wherever uric acid exists in a healthy body it exists exclusively as a quadri-urate. "It may be further inferred that when uric acid gives trouble and originates morbid phenomena, the mischief arises proximately from the uric acid departing in one direction or another from this normal state of combination."

He next considers the question of uric acid gravel. He shows that in normal acid urine, if preserved from putrefactive changes, sooner or later a tendency shows itself towards the splitting up of the quadri-urates and the formation of uric acid crystals. He shows that the saline matters and the pigments of the urine tend to delay this formation of uric acid. On the other hand, the more acid the reaction of the urine is, and the more uric acid it contains, the sooner will the crystals be formed. If the tendency to formation and precipitation of uric acid be very great, this process may occur in the urinary passages—hence gravel and stone; whereas if the quadri-urates remain unaltered for some time longer, there is time for their evacuation while still in solution, and no harm results.

Having, therefore, showed that the formation of uric acid gravel depends on these four factors—viz., deficiency of pigments, deficiency of salines, large proportion of uric acid, and high grade of acidity—Sir W. Roberts discusses how we may restrain and delay this process. He recommends that the subjects of uric acid gravel should take a large quantity of salt with their meals, and that they should not take too much nitrogenous food. But he goes on to say:—"I am satisfied that in the immense majority of uric acid gravel in this country the immediate determining cause of the precipitation is excessive acidity of the urine, and that the paramount indication of preventive treatment is to diminish this acidity. The use of alkalising agents for the prevention of uric acid gravel stands on a perfectly rational basis. It is chemically impossible for uric acid to be deposited from an alkaline urine; it may even be said it is impossible for uric acid to be deposited prematurely—that is to say, within the urinary channels, from a neutral or feebly acid urine." Sir W. Roberts next shows that the tendency to uric acid gravel is not the same at all hours, and that the tendency to precipitation is greatest at night. "If we safeguard the night, the day may be generally left to take care of itself." He therefore recommends alkalies to be given at bedtime. Many details are given, which will well repay study.

The remainder of the book treats of Gout. In this disease the uric acid appears as sodium bi-urate. The chemical properties, especially as regards solubility under various circumstances, of this substance are most thoroughly discussed. The author shows, by many carefully-planned experiments, that the serum and synovia of the body can keep in solution sodium bi-urate when the proportion of this substance is less than 1 part in 6,000. When the percentage reaches or exceeds this limit precipitation in a crystalline form either actually occurs or is impending. He shows that the deposition of these crystals in the articular cartilages is a purely passive and physical process, and he attributes to this deposition of crystals the gouty inflammation of the joint, believing that sodium bi-urate and uric acid are in no sense poisons, but that, on the contrary, their injurious effect is purely a mechanical one. Even with regard to "irregular" gout, he believes that the pain and other troubles are caused by mechanical irritation; that they are due "to actual precipitation of crystals of bi-urate into the connective and fibrous structures of the implicated organ or into the fibrous sheaths of the nerves that control their functions. In certain conditions the crystals appear to descend in sudden and copious showers, which provoke a sharp inflammatory reaction, as in the regular arthritic seizures. In other conditions the crystals seem to fall in gentle sprinklings, sufficient, perhaps, to cause irritation, if the implicated tissue be a sensitive one, but not enough to cause downright inflammation. The peculiar pricking pains in the joints which some gouty persons invariably experience after partaking of certain wines are highly suggestive of the occurrence of these slighter precipitations. Now if these slighter precipitations, instead of falling on the joints, fell upon the membranes of the brain, or upon the fibrous sheaths of the nerve-roots, this would, I maintain, afford an adequate explanation of the phenomena of irregular gout." Finally, the therapeutics of gout are discussed.

In conclusion, we can only repeat that these lectures are well worthy of the careful study of every medical man.

A Dictionary of the Terms used in Medicine and the Collateral Sciences. By the late RICHARD D. HOBLYN, M.A., Oxon. Twelfth Edition, revised throughout with numerous additions, by J. A. P. PRICE, B.A., M.D., Oxon.; Assistant-Surgeon to the Royal Berkshire Hospital, &c. London: Whittaker & Co. 1892. Pp. 822.

THE twelfth edition of this well-known and justly esteemed Dictionary has been rendered more complete than its predecessors by the addition of several new words and phrases, more particularly these relating to bacteriology. Being thus brought well up to date, it is entitled to take a high place among the numerous medical dictionaries which have appeared during recent years. It may be looked upon as a thoroughly reliable and satisfactory work.

Golden Rules of Surgical Practice: for the use of Dressers. By E. HURRY FENWICK, F.R.C.S., &c., &c. Third Edition, Revised and Enlarged. Bristol: John Wright & Co. 1892. Pp. 67.

WHEN we noticed a year ago the first edition of this booklet, then published anonymously, we expressed the opinion that it "may have proved useful to students who have neglected their hospital practice, and so have saved them from gross or dangerous errors." Now that in an amended and slightly enlarged edition it has doffed the veil of anonymity we see no reason to alter our views with respect to all such compilations as being both in theory and practice bad for the "morals" of hospital residents and dressers. There is an unfailing tendency for the student who has not acquired his maxims in the school of experience to turn in an emergency to his waistcoat-pocket dictionary of "Don'ts," and not improbably in his hurry to mistake the rule or its interpretation in action. With the soundness of the surgical rules laid down we have little fault to find; but the principle embodied in such manuals we most strongly and emphatically condemn. Such a rapidity of sale shows that the little volume has filled a gap; but it says little for the elementary clinical training of the purchasers. Some of the aphorisms are misleading by reason of brevity, and require a little amplification to render them unmistakable. A note on epiphyseal fracture needs revision. It cannot be followed by "premature ossification of the bone," and at the same time cause it to *lose* "its powers of ossification" (p. 30).

The Operative Treatment of Enlargement of the Prostate. Three Lectures Delivered at the Royal College of Surgeons. By C. W. MANSELL MOULLIN, M.A., M.D., Oxon., F.R.C.S. London: John Bale & Sons. 1892. Pp. 82.

THIS *brochure* is a reprint of the lectures delivered at the College of Surgeons by the author, in his capacity of Hunterian Professor, during the present year. In studying the question of prostatic disease from the stand-point of operative surgery Mr. Moullin has availed himself of the results of one hundred and thirty-six cases gleaned from the literature of the subject, and submitted to careful analysis. On the whole the result is favourable, and puts the future of prostatic surgery in a more glowing light than, perhaps, some of its advocates could have hoped for it. It is needless to say that the subject of prostatic disease, like everything Mr. Moullin touches, is dealt with in an exhaustive and, at the same time, a judicial and a scholarly way.

The first lecture deals with the subject of prostatic enlargement, in the light of the development, anatomy, and physiology of the gland. Mr. Moullin regards the prostate as normally a purely sexual organ; it "has nothing to do with micturition, either by assisting or retarding it. Its origin is from the genital cord—a thickened mass of tissue which surrounds the Wolffian ducts as they course together to the cloaca, behind the stalk of the allantois, altogether distinct from the bladder. Its structure, which is very peculiar, from the large proportion of apparently muscular fibre it contains, is identical with the tissue of similar origin that surrounds and belongs to the vasa deferentia and the vesiculæ seminales, and, in the young subject at least, is continuous with it." "Its function," he says further, "is the discharge into the urethra of the fluid secreted by the glands, and possibly (from an observation of Andersen's) to some extent the ejection of the semen, which it prevents passing back into the bladder; but except for the passive support it lends the first part of the urethra it has nothing to do with the function of micturition." The second lecture deals with palliative operations—Mercier's and Bottini's; removal of portions of prostate during the operation of lithotomy; an account of Dittel's operation, or lateral prostatectomy, and the results obtained by Küster in practising it.

The concluding lecture deals with M'Gill's operation, or supra-pubic prostatectomy, of which a complete account is given. A careful analysis of the cases follows, and a comparison of the relative merits of supra-pubic and perineal removal of the gland; decidedly in favour of the former. From this it will be seen we have here a complete *résumé* of the present state of vesical surgery as regards this very common condition, carefully and clearly laid before us. The book will repay study, and is deserving of a longer life than the security of a paper cover affords.

Elements of Human Physiology. By ERNEST H. STARLING, M.D. London: Churchill. 1892. Fcap. 8vo. Pp. 464.

THIS little work is one of the Student's Guide Series—a collection of student's books much above the average, and one which already contains many very excellent works. The new volume will serve still further to enhance the reputation of the series, for although necessarily short and condensed, it is not wanting in clearness, and shows a good sense of the relative importance of the different parts of the subject.

It is highly to be commended as a first book for students of physiology, and as such we have no doubt it will enjoy a widespread popularity.

"The Best Thing to Do." First Aid in Simple Ailments and Accidents. By C. J. S. THOMPSON. London: The Record Press, Limited. 1892. Pp. 53.

CLEARLY printed on uncut hand-made paper, and daintily bound in linen, with the ambulance cross as ensign, this little volume contains much useful information for travellers and tourists.

This is for the most part accurate, and is clearly and concisely put; and in most instances the advice given is that best adapted to the circumstances. In the chapter on Health Resorts we are astonished to find Eastbourne and Bournemouth classed among "bracing" localities; while no mention is made of Margate, admittedly the most bracing of English Southern watering places. Nor can we agree with the stage of a cold in which medical aid is to be called in; many a case might have run into a fatal pneumonia if these directions were carried out. Again, in all cases of poisoning medical help should at once be called in. In no class of cases is delay more dangerous, and the meagre directions given here could do little good in unskilled hands. Moreover the advice given in carbolic-acid poisoning, to follow up an emetic "by large doses of olive oil," is the worst that could possibly be offered to a lay reader. There is a useful list of favoured health-resorts, with, in some instances, comparative statements of the winter mean temperature, which will be serviceable to those intending to winter abroad; and to them we may commend the little book as a travelling companion.

Notes on Pathology: a Hand-book for the Post-mortem Room. By the late R. E. CARRINGTON, M.D. Lond., F.R.C.P.; Assistant Physician to, and Senior Demonstrator of Anatomy at, Guy's Hospital. Edited, revised, and amplified by H. E. CROOK, M.D., Lond., and GUY MAKESON. London: H. K. Lewis. 1892. Pp. 150.

THESE "Notes" contain in a clear and intelligible form many of the most important facts connected with pathology and morbid anatomy. They are intended to assist students to understand the nature and meaning of what they see in the *Post-mortem* theatre.

The first chapter contains an account of tubercle as found in the organs and tissues of the body. Then the author takes up the various organs, lungs, heart, liver, &c., giving an account of the appearances, both naked eye and microscopic, of the commoner affections of each. When necessary—as, for example, in the case of heart disease—the ill-effects resulting to the system generally are explained.

As far as this book goes, it is likely to be useful to students; but we think it a great pity the author and editors did not make it a little more complete. There should have been some account of tumours in general; malignancy should have been explained; there might have been some explanation of such phenomena as fatty degeneration and dropsy; and we know of no reason why no notice at all should have been taken of the pancreas.

Hygienic Measures in relation to Infectious Disease. By G. H. F. NUTTALL, M.D., Ph.D. (Göttingen). Putnam's Sons. New York and London: The Knickerbocker Press. 1893. Pp. 101.

IN attempting to condense the present state of our knowledge of the nature and prevention of infectious disease, the author has handled an important subject in a hardly satisfactory manner. The work is almost entirely Bacteriological; and interesting and instructive as many parts of the book are—*e.g.*, Puerperal Fever, Scarlatina, Tuberculosis and Surgical Disinfection—it might with advantage be brought to meet the wants of the practical physician by revising the first portion, and appending the actual methods of disinfection after each special disease. Frequent references (some fruitless) from page to page are occasionally irritating to the reader. The binding and printing of the second half are suitable.

Our Sick, and How to Take Care of Them. By FLORENCE STACPOOLE, Diplomée of the London Obstetrical Society, and Lecturer to the National Health Society. Cassell & Co. 1892. Pp. 149.

FEW writers on nursing can speak with more authority or lay down plain practical directions more clearly than Miss Stacpoole. The book before us is for the use of those who cannot procure the services of a trained nurse, and to everyone attempting to nurse a serious case of illness at home it will be of very great use. Chapters IV. and V. contain the pith of the book, and we can confidently recommend their careful study to those even who have gone through a course of training. The first and third chapters are rather weak, particularly the latter, which dismisses the most important subject in the book—viz., "nursing in infectious illness," within three scanty pages. This might be much improved and the remarks on disinfection in Chapter V. with advantage embodied therewith. A useful description of the more common infectious diseases is added, which in some points, however, convey vague or erroneous impressions—*e.g.*: "Some doctors believe that chickenpox can give actual small-pox;" and speaking of typhus, "towards the end of seven days" a rash is seen, while "actual diphtheria often accompanies bad scarlatina" is hardly our experience. The remarks on Enteric Fever are particularly good. We wish the book well for the sake of Chaps. II., IV., V., and IX., the excellence of which is undoubted, and which contain a fund of "wrinkles" of great value. In the event of a second edition, a revision of the remainder would entitle it to a better cover. There are five useful illustrations. It is the germ of a valuable book.

Transactions of the Pathological Society of London. Volume XLIII. London: Smith, Elder, & Co. 1892. Pp. 357.

In this volume we have accounts of a large number of most interesting cases, many of which are beautifully illustrated. The obscure subject of the Pathology of Chorea is attacked by Dr. Charlewood Turner, who in several fatal cases found the nerve-cells in the Rolandic area swollen, with rounded outline, staining more deeply than normal, and having the nucleus obscured by the cloudy protoplasm. Dr. T. S. Clarke contributes an important paper on Psorospermial Cysts of the Kidney. Congenital absence of the tibia is recorded in one case, and of the fibula in another. Dr. Ord is the author of an interesting paper on Deposits of Indigo in Urine. But perhaps the most important, and at any rate the longest, article in the book is the report of the discussion on Phagocytosis and Immunity which took place in February and March last. It will be found to contain almost all that is known on these important subjects.

The Practical Side of Scientific Temperance. By ANNE W. RICHARDSON, B.A. London: British Women's Temperance Association. 1892. Pp. 20.

A WELL-WRITTEN summary of the opinions of medical men who are opposed to alcohol, with the virtue, rare in pamphlets, and even in larger works, of full references to the sources of all quotations.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

THE UNITED TEMPERANCE MOVEMENT.

On the morning of Wednesday, October 5th, 1892, a Public Breakfast and Conference of Medical Men were held in the Leinster Lecture Hall, Molesworth-street, Dublin. The chair was occupied by Prof. Hamilton, President of the Royal College of Surgeons, in the absence of Dr. J. K. Barton.

After breakfast the Chairman rose and said:—It affords me very great pleasure to take the chair upon this occasion; and in order to avoid even any appearance of hypocrisy, it is right that I should tell you that I am not myself a total abstainer. Probably it might have been better for me if I were, but of this I assure you that my sympathies are fully with you, and everybody who has any spirit or heart or feeling or love in them must sympathise with your great work, in bringing about the principles of abstinence and encouraging them in children. I believe we have met here as a sort of conference of medical men and the promoters of this temperance movement with regard to children. Well, now, we have the greater opportunity of observing the deadly influence and the fearful effects of intemperance. As we go our daily rounds from street to street, and from house to house, we see wretchedness, and poverty, and misery, and unhappiness, and irreligion, which are developed by the drink system. There can be no doubt that everything that is done to allay this must be good, and must have the sympathy of every Christian. It is therefore to me a great pleasure, and I consider it a great honour, to address this influential meeting assembled here for this purpose. There can be no doubt whatever, and I am old enough to trace back days gone by, when, from the teaching of one of our physicians, Dr. Todd, we rushed into the use—aye, I would say the abuse—of alcohol, in the treatment of disease. I think, however, mature observation and more sober reason have shown us that the cases in which alcohol is necessary are exceedingly few indeed; and when we go back to your work I am perfectly satisfied that the use of alcohol in the treatment of infantile diseases is almost nil. Still do not let us be bound by hard and fast rules—let us exercise our judgment; but, on the other hand, let that judgment not be tied up or warped by prejudice, or too much by the example of others. Leave us a free hand, and I am perfectly sure you will find, day after day, that the use of alcohol in the treatment of diseases of children will be almost reduced to nothing. Now, the question is an exceedingly large one, and the thing is no doubt very suggestive, and it requires a little consideration to address you about it. The whole subject is the great question of to-day, and if it is a question all over the world it is a question particularly in this unhappy land, where, I believe, its effects have been most pernicious. Various methods have been adopted, but I think the plan which you are organising—the plan of striking at the root of the use of alcohol is undoubtedly the best, but it requires also to be extended even to adults. There can be no doubt that the amount of alcohol consumed by our young men at the present day is most injurious to them, and the modern system of drinking is positively almost worse than the old system. I think there is nothing so injurious, nothing so lowering, nothing so degrading, as the constant use—(I see it in my own profession)—of the glass of whisky with soda-water mixed at night. Then it often begins in the morning, and once it commences it goes on until the brain of the individual is almost fit for nothing, and his day is completely lost. I was not aware that I would have the honour of addressing you to-day, but I may just mention this to you. Passing through London at the termination of my holidays, I was struck with a very remarkable fact, which I think will interest you, as it is a very interesting matter in connection with the use of alcohol. I had not been in London for some time before, but there was one thing this time that made a very great impression on my mind, and I said at the time (without any reference to this meeting):—"I have seen now an arrangement going on in London which will do more for temperance than all the sermons that ever were preached." There have been, as you know, recently established in London a very elegant series and system of restaurants. They are started and established by the Aërated Bread Company. I knew nothing about them till I went to London, but frequently passing along the streets, and often at the time wishing to take a cup of tea, I observed these little restaurants—beautiful and clean, bright, well-ventilated, with their attendants neatly dressed in their black and white costumes; and the crowds of people that thronged into those little restaurants, scattered as they are through every street in London, from three to five o'clock, that it was almost impossible to get entrance into them. Who were the people going into them? They were young men—principally business men—young women, and sometimes people advanced in life, and they went in and sat down in those comfortable rooms, and had their cup of freshly-brewed tea, most delightfully made, and with a most delicious flavour. They took their bread, or bun, and butter, and all for the moderate charge of 4d., so that they had here an opportunity, which is spreading enormously, of taking this kind of lunch—clean, exhilarating, wholesome food—instead of standing at the bar of the publichouse, and taking the sandwich and glass of beer. I think the growth of these is calculated to serve the cause of temperance immensely, and will ultimately do good. I honestly say myself that I would rather have this cup of tea handed to me by a neatly-dressed—very often a pretty—girl than take a glass of beer and sandwich from a frowsy, fussy old waiter. Well, as there are so many people to address you with more enthusiasm than I can, I shall conclude these remarks by wishing God speed to your good work; and I am perfectly sure, with the assistance that you have here—especially with the help of the ladies—it must prosper and it must succeed.

Dr. James Edmunds, Consulting Physician to the London Temperance Hospital, said:—It needs much hardihood to stand up before so many Dublin doctors, but I have been encouraged by my friend and host, Dr. Cosgrave. Dr. Cosgrave tells me that his eminent medical confrères here in Dublin have shown the greatest sympathy for his temperance work, and also that they are in advance upon the question of limiting strictly the prescription of alcohol in the treatment of disease. Knowing what all the world does know of the eminence of the Dublin School of Medicine, that is only what might have been expected. Still Dr. Cosgrave's assurance on that point has encouraged me, and, as I have from the first taken an active part in the clinical work at the London Temperance Hospital, and we have not yet converted everyone to our views, I am thankful to have so kindly an audience for the facts and impressions which I have been asked to bring forward this morning.

Our object in meeting here to-day, under the kind auspices of our distinguished Chairman, is to beg of you to consider how far, when standing at the bedside of the sick and of the dying, you can aid the objects of this great organisation—the United Kingdom Band of Hope Union. The children enrolled in the local Bands of Hope throughout the United Kingdom now number 2,600,000. Those 2,600,000 children are all pledged to total abstinence from alcoholic intoxicants. In their own homes, among their school-fellows, and among their child-friends, these 2,600,000 children are temperance emissaries who must exercise a large and beneficent influence. Among those children there are many parents who have not yet broken off their own habit of using alcoholic beverages, but all of them must be glad to see their children safeguarded by enrolment in the Band of Hope, and so far shielded from the evils which everywhere grow up out of the dietetic use of these alcoholic beverages. Feeling, as I do, that in this matter of drunkenness prevention is better than cure, I rejoice that the Band of Hope work has already had such cordial support in the remarks which have fallen from our Chairman—the honoured President of the Royal College of Surgeons in Ireland.

Among the parents of Band of Hope children there are many who continue for themselves the use of alcoholic beverages. Nevertheless, behind this Band of Hope work there must be always the main question of total abstinence in general. For, unless it be desirable to eliminate the use of alcoholic beverages entirely from every-day use, there is no *raison d'être* for protecting the children from the infection of the drinking habits. In fact, we appeal to you, medical men, as to the high priests and leaders of the people in this matter.—and we ask you to charge yourselves with a new line of work in Preventive Medicine. We ask you not only to protect the children from the moral infection which lurks in the drinking usages of society, but we ask you also to cure the parents when they come under your care, and so to disinfect the home, completely to stamp out that disease which is a national shame.

What I have come to see in this matter is that the moderate drinker is the raw material out of which we manufacture our drunkards. Out of our moderate drinkers the drinking usages of society develop drunkards by a simple process of evolution. At one end of this process we see the baby sucking alcoholised milk from its mother's breast—the said alcohol having been ordered by the doctor. When admitted to a seat at the family meal table the young child sees that it is the privilege of adolescence to drink beer or wine, and that to the parents there belongs an additional privilege and a higher dignity—that of drinking distilled spirits. For the honoured guest and for the *fête* day, the child sees that the emblem of hospitality and of family celebration is the bottle! When the boy goes away to school small beer is prescribed for him by the doctor, while he sees set for the master, the mistress, and the teachers, a more highly alcoholised beverage. If ill, or weak from over-growth, the doctor orders a stronger liquor, and, if he recovers, he associates his recovery with the prescription of alcohol. When the youth goes out into business he finds the general intermediary in business to be the bottle, and if he goes to a regiment, to a university, or to a medical school, the same environment of drinking usage pursues him. Is it not clear that it is this environment which makes moderate drinkers at one end of the process, and drunkards as the finished product of the manufacture the other? There is none of us here this morning who, looking back through the vista of his memory, does not see before him the friends and associates who by this environment have been ruined by drink—many of the ruined ones among the ablest and most charming of the acquaintances of his youth. What is almost more important is, that the ruined ones are only the exponent of that great mass of mischief and deterioration which has been caused to other members of the community. If this be so, it is clear that we, physicians, having special knowledge and experience in these facts, also have a special duty cast upon us; and that duty is to discountenance, as far as possible, the daily use of these intoxicants out of which so much evil grows. Is it not still more incumbent on us to help this great Band of Hope Union in divorcing the use of alcoholics from the growth of our children by avoiding, as far as possible, the prescription of alcoholics to our child-patients?

You, Mr. Chairman, have said, and rightly said, that it is not possible for us to lay down the proposition that, as a medicine, alcohol has no drug power, or that, in sickness, alcohol can never be useful. I could not submit to this meeting any such proposition as that. But a question of very large interest for us to consider is as to the limits within which alcohol is really useful and necessary in our prescriptions, and more especially in our prescriptions for the young. Looking back upon my own life's work at the bedside, I confess that the process of revolution with me has been continuously towards the narrowing of the limits within which alcohol has a useful influence in disease. Forty years ago I should have thought it criminal neglect if I had not given large doses of opium and of alcohol to patients suffering from *delirium tremens*, and my then confidence in medicine was such that when these patients died I set down their deaths to the fact that they had not had enough of the opium or of the alcohol to bring forced sleep to their tremulous nerves. In those days I had a large mortality from *delirium tremens*. Now I get but a comparatively small mortality in that very disease, and this reduction is due, as I believe, simply to the fact that for many years I have practically excluded alcohol and opium altogether from the treatment of *delirium tremens*. Thirty years ago I was surgeon to one of the great London Breweries, and its draymen were under my care—men who had been enlisted from all parts of the country in order to work in these great breweries. Those men begin with splendid physique and with the best antecedents of a country life. Yet among those men the mortality is very high—this great mortality is due solely to the large quantity of beer and spirits that their daily occupation throws in their way. Now, I see clearly enough that a large number of my then patients died of the doctor—a cause of death which does not yet appear in the Registrar-General's returns. And the main factor of death among those cases was this very prescription of alcohol and opium, which we were then taught was necessary in order to save their lives. But young medical practitioners cannot be expected to begin life by emancipating themselves from the errors of the schools in which they grow up. Eminent men like Dr. Todd were then the consultants by whom we had to be guided in bad cases, and those men, almost without exception, would have charged us with *mala praxis* had we not administered port wine or brandy freely in what were called "cases of exhaustion." It is true that there always were a small number of men who looked askance upon this free use of alcohol, but a generation ago such men were exceptional, and were rather regarded as medical dissenters than as safe guides in practice at the bedside. These were the conditions under which we worked thirty years ago when I was a young practitioner. But, fortunately, my eyes were opened upon this question. A working saddler came to me one day to prescribe for some illness, and after examining him I told him to take a little stout three times a day. He replied, "Well, doctor, I am a total abstainer." I said, "Oh, that is very foolish; you must take the stout." He replied, "I am a temperance man." I said, "I am a temperance man, but you are not so at all. You should use these good creatures of God moderately. Take a little stout and it will do you good." He then said, "If you will tell me how it is going to act, I will consider the matter." Well, at that time I thought I knew everything, and I had always prided myself upon never telling a patient to do any thing for which I had not a good reason to give. I suddenly realised that in this matter I had no intelligible reason to give in justification of my advice, and that this working saddler had cornered me. I felt a little annoyed to find that in this matter I had been acting in accord with mere routine and authority, but I felt that medical authority was so clearly with me that I said, "Well, that is my opinion, and if you do not act upon it, you must take the responsibility." He said, "Well, I will take the responsibility, and I will leave out the alcohol." I can only say that the man did very well, and soon was again fit for work, and though I then felt sure that something would happen to a working man who chose to act in defiance of the doctor, I afterwards could not but admit that he had got on very well without the stout. About two months later that same man turned up one morning again, and astonished me by asking me to come and take the chair at a Temperance Society to which he was secretary (the East Central Temperance Association). I said, "Certainly not. I am a temperance man, but not a total abstainer." He replied, "We don't mind that if you will come. We are doing good among our fellow-workmen, and you may say anything you like, or we won't ask you to speak at all if you prefer it. But we want you to come and take the chair." My reply was, "I am really very busy, and I never attend or speak at public meetings." However, at length I promised to go and take the chair. I went to the meeting, and in opening it I carefully dissociated myself from total abstinence. In the course of the meeting, which was addressed entirely by working men, there was told a tale of sorrow, poverty, and suffering, which came into their homes through this drink, and how it was all cured by the simple remedy of total abstinence. As they spoke I got very uneasy with a feeling that I had been cornered again, and that I had no answer to these statements. I gradually realised that there was a great question in the background which we, as scientific men, were blind to; that we saw these facts without perceiving them, that we heard them without hearing them. As they went on I became greatly interested, and I said to myself, "These things are all true. Surely, this is a big question." At the end I closed the meeting with very different feelings to those with which I had opened it, and I said that I should think the matter over very carefully; that there certainly was a great deal more in it than I had previously realised; and that I should see how far I could venture to do without prescribing alcohol in the course of my medical work. The result of my thinking the matter over was that the question fastened itself upon me, and I never succeeded in shaking it off. My first experimental trial was upon myself. I left off the single glass of ale or wine which I had taken twice a day at meal times, and though, at first, water was insipid, I soon found that I enjoyed my food and was quite as well able to keep up with my work as ever. I got a little slimmer in person, but I did not lose an iota in the pleasure with which I did my work or in the enjoyment of any society for which I cared.

I have now been an abstainer from alcohol for thirty years, not to help any body else by sacrificing myself, but simply as a philosophical epicurean, and because I have been convinced that the fullest and best enjoyment of life and health is not to be obtained under the use of alcohol as a part of our daily food. That is the result of my own personal experience, and wherever I have been called upon I have for many years spared what time I could in order to give my testimony wherever I thought that it might be useful. My own conviction is that by the disuse of alcohol I have gained much and have lost nothing. I also feel that my children will have better chances in life, by reason of their having grown up in a home where they were not taught to drink alcohol. Careful observation has convinced me that the young man who starts in life without the habit of using alcohol is much more likely to succeed and do well than if he has been taught "to use alcohol moderately." The working saddler, for instance, Mr. George Ling, subsequently built up one of the leading temperance hotels in London, and became a very prosperous man. I am happy also to tell you that he has ever since continued to help the Central Temperance Association—now one of the most useful and influential societies in the country—that he has stuck bravely to his convictions on this matter, and has been able to stand that which few men stand well, *success*; and that out of his own surplus earnings he has contributed some £4,000 to the support of the Central Temperance Association of London, as well as continuously devoting valuable time to its management. If we look at young men who have the sense and courage to take up life's work without alcohol and without tobacco, we shall find a much larger number of successful men than among others.

Dr. Robert Morton, of Nenagh, in addressing the meeting, said:—Many people say that this temperance question is worn threadbare by the incessant hammering of temperance speakers; far from being worn out, it is strong and vigorous, and not only growing stronger, but becoming every day more and more a medical question, for this reason—since the time of Hippocrates medical men have freely given their thought, intelligence, observation, and experience, the better to enable us to assist our fellow-men when afflicted with disease, but in comparatively recent times the medical profession has taken a wider, and if possible, more philanthropic view of its duty and responsibility. It has set itself to study the laws that govern public health, to suggest to the people the best means to preserve health, and to avoid diseases that may be called preventable.

This movement has raised the profession very much indeed in national importance, and never has that importance been seen to greater advantage than in the present—so far, thank God, successful—attempt to grapple with cholera on the east coast. But, sir, if it has raised our importance as a profession, it has increased our responsibilities, because each member of the profession is expected to be a competent instructor on matters affecting public health.

Now, of all questions affecting public health is there any of such importance as the popular use of alcohol? We know that the popular use of alcohol leads to a mortality of 1,000 a week in Great Britain and Ireland, and we must admit that such a terrible mortality draws behind it an almost incalculable amount of seediness, sickness, ill-health, and incapacity for work, that never culminates in actual alcoholic disease or death. When we consider this, we see that typhoid, typhus, and scarlatina are comparatively insignificant. There are many phases of the use of alcohol upon which a medical man may be called on to give an opinion, and I mean to bring before your notice this morning but one, and that is the popular position assigned to alcohoi on the dinner-table. We know how people estimate it. No dinner is considered complete without a plentiful supply of alcoholic drinks. As a friend said to me some time ago, "I like your temperance breakfasts very well, but I can't think much of your dinners." We know that alcohol is generally supposed to be a food, or an important auxiliary to food. What opinion should we give when we seriously consider this point of the question?

In defining food, I suppose I may safely say that food is a substance that supplies material for the growth and renewal of our tissues, or a substance that supplies material for combustion to keep us warm, or that develops force in some way.

We may dismiss alcohol from the first category at once. It is not a substance that supplies material for our growth or the renewal of our tissues. Is it a substance that supplies material for combustion? No. This cannot be maintained in the face of two vital objections.

The first is, that alcohol lowers the temperature, and one would think that sufficient to end the matter; but it is argued that as alcohol increases the surface heat, it increases radiation of heat, and so the temperature falls, but at the same time some of the alcohol may enter into combustion and produce heat, though not to the same quantity that has been reduced by radiation. Well, if a man gives me an income that compels me to spend more than I get, I am none the richer; but the second objection puts an end to it altogether, and it is this:

That when you give alcohol you lessen the amount of carbonic acid exhaled. Now, if alcohol lowers the temperature and at the same time diminishes the evidence of the act of combustion, it cannot be said that it is a heat-giving food.

It is, however, asserted that in some indirect way it acts as a food. And Dr. Hammond, of New York, shows that if you feed a man on non-alcoholic food and weigh him, and then add alcohol to his food, it will be found that his bodily weight will increase, and, therefore, that in some way alcohol must be a food. Nothing is more natural to expect, when we remember the effect of alcohol on fat. A man is certainly inclined to fatten under the influence of alcohol and so increase his weight, but is it because the alcohol acts as a food? it is much more likely that it is caused by interference with vaso-motor nerve energy. Undoubtedly the nerve control that governs the growth of fat cells is somehow lost, in proof of which we have only to see how fat cells comport themselves under alcoholic influence; they are not content to increase in their natural positions, they transgress their boundaries, they insinuate themselves into the substance of highly organised tissues, into the substance of our most vital organs, and multiply there to the distinct injury of the person.

Suppose you had two football teams fed on non-alcoholic food and pretty well matched, and to one team you give alcohol until the weight of the team is perceptibly increased, then pit your teams against each other again, and if you are inclined to bet, on which side would you put your money? But some may say, we don't all want to be athletes, we don't all want to play football. No doubt, some of us would cut a sorry figure in a football field. But I will tell you what every man wants. He wants to be able to withstand illness. Any man may at any time be called upon to withstand an illness to which a game of football would be but child's play—an illness that might make the strongest man unable to sit up in bed, much less stand. And I am sure that most medical men will admit that in such an illness, exactly in proportion to every pound weight put on by alcohol, so will the medical attendant's hope of recovery fall. Another way in which it is said to act as a food indirectly, is that it checks waste. Now, we are speaking of its action on healthy people; waste in a healthy man is a process to preserve that health. When you say it checks waste, you say one of two things—either you check the activity in cell growth, or check the activity of those organs whose business it is to remove waste. You either check overgrowth or the removal of poisonous and effete matter—neither of them a very desirable result.

Another thing we hear a good deal about, although it seems to me the weakest argument, is this—that if you give an animal a measured quantity of alcohol—say an ounce, and examine as closely as possible afterwards, you will find that a great quantity of that alcohol passes unchanged from the body; but the strictest scrutiny can never account for the entire quantity given—part is unaccounted for, and it is assumed that this part of the alcohol that is not found again, and cannot be found again, is assimilated in some way, and becomes a food.

I am not skilled in quantitative analysis, but I have been puzzled to know how the exact amount of alcohol that continues to be exhaled from the lungs so long after it was administered is computed and how the amount that escapes from the skin is calculated, and I have often wondered if an ounce of alcohol or any other volatile liquid was sprinkled over a wet sponge and analysed after, would it be possible to get every single drop of the ounce again. However, we must suppose and believe that the experiment has been done by careful and competent hands, and so far we must accept it as a fact that, given a certain quantity of alcohol, some of it is unaccounted for, are we therefore to assume that it assimilates and enters into a beneficial combination?

Such reasoning reminds one of Mark Twain's sarcastic logic.

You may remember that when he was in the Holy Land he was pointed out the grave of Adam. He tells us very pathetically the emotions that arose in his mind when he found himself at the grave of a blood relation, and he adds—"I must believe that this is truly Adam's grave, because it has never yet been proved that Adam was buried anywhere else."

If we turn from physiological reasons like these, and look for practical tests, we have distinct and positive evidence in favour of men who refuse to make any use of alcohol.

When we compare Temperance Benefit Societies with others, such as the Oddfellows, Foresters, or Manchester Unity, we find the health and working capability markedly in favour of the abstainers.

When we compare the returns of Insurance Companies we find a lower rate of mortality for the abstainer.

These remarks, so far, refer to our bodies principally, and, no doubt, much of our usefulness depends upon the strength and soundness of our bodies, just as the usefulness of the steam engine depends on the strength and soundness of its construction; but the steam engine is no good without the steam, and our bodies are not worth anything without the force to work them. Now if all force is matter, as many seem to think, that is matter in a force entirely imperceptible to the senses. We are cognisant of its presence only by some manifestation of its power like electricity.

If this is accepted, then there is in every man a substantial something of much more value than his body. Being a force according to the principle of conservation of energy, it cannot be lost—it is indestructible—it may be transformed, but can never be anihilated. It is a power that cannot be measured by weight or inches—it is a power by which a small man subdues and tames an elephant, and by which an apparently physically weak man bends others to his will, and as a matter of history has controlled a nation or inspired an army.

It is the fountain of our intelligence. Without our knowledge this power governs our most vital actions, and with our knowledge it directs our movements; it requires healthy food; it develops by exercise; it is depraved by idleness; it is weakened, checked, thwarted by alcohol.

Mr. Arthur Reade, in his work on "Study and Stimulants," published 132 replies that he got from brain-workers on this question, and none of them could find any advantage from alcohol.

We all know the period of mental exaltation that in some people follows the administration of alcohol, but we also know that this mental exaltation is due to increased capillary arterial circulation, which is caused by paralysis of inhibitory vaso-motor energy—that is, paralysis of a branch of the very force and power I speak of.

When we consider its effect on the nerve power that governs our movements, its evil is very apparent when we take what I may call coarse examples. If a man takes an excessive dose of alcohol we see him, after confusion of thought, becoming temporarily unconscious and paralysed with the shaky hand of next day. In chronic inebriety this temporary paralysis sometimes becomes permanent, while his intellectual powers may be reduced either to incapacity or utter imbecility. The well-known tottering gait of habitual drunkards is very often the beginning of this paralysis. I mean by tottering gait the movements in his sober moments.

We can see its action in finer examples where co-ordination of motion is required to be very rapid, accurate, and precise, such as quick shooting, billiard playing, and games of skill. Excellence in such games and alcohol are incompatible.

If you see any man who says he can perform better after he takes alcohol, or if a man has to steady his nerves by a dram, you may be quite certain that man is already drinking too much, and if it is necessary to steady his nerves to perform a difficult thing by taking alcohol, you may be sure the beginning of the end of his excellence has come. I don't mean to say that a total abstainer will excel another man. I mean to say that a man who excels at any of those games of skill is inferior to himself when he takes alcohol.

The experiment published by Dr. Lauder Brunton showed that alcohol dulls perception, discrimination, and judgment.

Dr. Ridge proved that it weakens common vision.

The late Dr. Parkes, in his experiments on soldiers, showed that it interfered with muscular activity and induced slothfulness.

With such facts before us, we cannot consider it either a force producer or a food, and, therefore, what opinion are we to express with regard to its position on the dinner-table.

I do not like to exaggerate one bit. If we do, it recoils on ourselves, but I think what I propose is straight and fair.

We must say that alcohol is not a food, but we may call it a "luxurious condiment,' like sauce, mustard, spice, and such things.

Then we say it is "unnecessary;" we, total abstainers, prove that, and something more.

How shall we say it is dangerous or harmless? Dangerous seems too sweeping, but can anyone dare to call it harmless. Think of the 1,000 deaths per week in Great Britain, of our own countrymen. Go to our jails, our hospitals, and our lunatic asylums; ask our magistrates and police constables; ask our judges and our coroners, and then tell us could we dare to put "Harmless" on the alcoholic bottles.

Yet, as I say, dangerous seems too sweeping, and therefore we must put it "dangerous," "harmless to those who are extremely cautious." Now, underneath that shall we put Sir William Gull's opinion? Sir William Gull gave that opinion, not in the heat of advocacy, not in the enthusiasm of debate, but deliberately before a sworn investigation in the House of Commons. He said, "Alcohol is the most destructive agent to the human race that I am aware of." Shall we put underneath that Sir Andrew Clark's opinion? He calls it, "The enemy of our race.' Now, shall we put under that Dr. Lauder Brunton's opinion? He calls it "Narcotic medicine." Our label would stand thus—"Luxurious condiment;" "unnecessary;" "dangerous;" "harmless to those who are extremely cautious;" "the most destructive agent to the human race that I am aware of" (Sir W. Gull); "the enemy of our race" (Sir A. Clark); "Narcotic medicine" (Lauder Brunton). We know how people prize it. It is described as full-bodied, rich, invigorating, blood-making, refreshing, crusted, old, and so on. If we rub this description off, and put on the label suggested, we would be called rabid teetotallers, enthusiasts, faddists, lunatics. It is very little matter what we are called. If we hold what we believe to be the truth in a question of such vital importance to the welfare, health, and happiness of our countrymen, we are bound to proclaim it, and if we do not, others will, for the truth in this case will make itself heard, and in the end must prevail.

Dr. J. W. Moore (Dublin), in moving a vote of thanks to Dr. Edmunds and to Dr. Morton, said that before he commenced the duty imposed on him, he should avow that he was not a total abstainer. He had listened with extreme interest to the remarks which had fallen from the speakers on that occasion. He was sure he would convey the sense of the meeting when he said that they were deeply indebted to Dr. Edmunds, who had taken the trouble of coming over from the sister island, and also to Dr. Morton, for the addresses they had given. Happy the cause that had such able advocates. They had almost persuaded him to become a total abstainer. But, apart from that, he would like to say that, as a rule, his brother-physicians in Dublin had now come to that form of mind that they prescribed alcohol only as medicine—nay, more, he believed that they never prescribed it now in hospital or in private practice without duly weighing its possible and probable effects. He recollected not so long ago when there was an indiscriminate use of alcohol, particularly in the treatment of fever. Before he was long attached as Physician to the Cork-street Fever Hospital he came to the conclusion that this indiscriminate administration of alcohol in fever cases was a mistake, and the result of that was that he very largely diminished the amount given to the patients, and he thought with the happiest results. At the same time, he would be very sorry, indeed, to approach a case of fever without alcohol immediately to his hand. The proper position to take in this matter was to judge every case on its own merits. He had fallen into the habit now, in the Meath Hospital, of asking every patient before he thought of prescribing alcohol whether he was a total abstainer or not, and he made it a rule seldom or never to prescribe it for a total abstainer. Another rule he made was that long before convalescence was reached all alcohol should be stopped. He thought great mischief was done by the physician forgetting that he had his patients on a certain amount of alcoholic stimulants. The diet cards and the medicine cards should be revised day by day, and every ounce of alcohol should be carefully prescribed day by day. One of the most serious drawbacks that he had seen in private practice was the administration of alcohol to young, growing girls. Claret was the wine that seemed to be given for bloodlessness, or anæmia. Any person who knew what claret was knew that the only claim it could have to making blood was its colour. On this principle, we might as well prescribe milk for an individual afflicted with too florid a complexion because of its white colour. He was quite sure that claret was a dangerous remedy in cases of anæmia. He would say that alcoholic stimulants should rarely be administered to young girls, whose nervous organisation was so finely wrought and so easily disturbed. There was one point that had occurred to him as he listened to Dr. Edmunds' address, and remember he was a friend of total abstinence, or, at any rate, of temperance, and it was just this—that possibly the advocates of total abstinence might a little over do the thing, and damage the cause they had at heart by over-stating their arguments. Dr. Edmunds alluded to the time when his class-fellows were divided into two groups—drinkers and non-drinkers, and he drew a terrible picture of the fate of the poor drinker, while a glowing account was given of the fate of the total abstainer. That was the impression the words left on his (Dr. Moore's) mind. Now an advocate on the other side might use a very strong argument diametrically opposed to that, and he would give an instance. He was not, however, using it as an argument against total abstinence. He remembered when the Vartry water was introduced into Dublin. By its introduction the subsoil water rose to a very remarkable extent, with the result that the beautiful spring well in Trinity College became contaminated with sewage owing to the overflow into it of the foul subsoil water. What was the result? The students dining at "Commons" in Trinity College every day were divided into two classes—the water-drinkers and the beer-drinkers, and he might tell them that they might have drunk almost any quantity of the beer without injuring health, as it was weak. Time went on, and an outbreak of typhoid fever broke out in the College, and a remarkable fact was that the cases were strictly limited to the water-drinkers. This is a historical fact. The water was drawn from the polluted well, and the water drinkers at Commons suffered. The beer drinkers escaped. The result of the epidemic might here be incidentally alluded to. It was resolved to drain and dry the subsoil of Trinity College by pumping, and from that day to this Trinity College has been as free from enteric fever as it had previously been.

In conclusion, Dr. Moore felt sure that he represented the views of every person present when he expressed their deep gratitude to Dr. Edmunds and Dr. Morton for the very clear and able addresses with which they had favoured the meeting.

DR. COSGRAVE seconded the proposition, and said they should be specially thankful to the medical gentlemen who had left their work to come amongst them on that occasion. Dr. Morton never refused an invitation to come and assist them, and Dr. Edmunds had come at a great sacrifice to himself at that time to encourage them.

A vote of thanks to the Chairman was passed on the motion of **DR. EDMUNDS**, seconded by **MR. WM. JOHNSTON**, M.P., and the proceedings closed.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—**George** H. **Kidd**, M.D., F.R.C.S.I.
General Secretary—W. **Thomson**, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—**Andrew** J. **Horne**, F.R.C.P.I.
Sectional Secretary—F. W. **Kidd**, M.D.

Friday, Nov. 25, 1892.

The **President** in the Chair.

Living Specimens.

1. **Dr. John M'Cullagh** exhibited a case of Spina Bifida, treated by iodo-glycerine; result after four years.

2. **Dr. M'Ardle** exhibited another case of Spina Bifida, cured spontaneously at the age of twenty-one.

Specimens.

Dr. Alfred Smith showed an ovary, size of hen's egg, removed from married woman, aged twenty-four, in St. Vincent's Hospital. It is clotted on the surface with spots of apparently caseous material. On section, numerous retention cysts are seen, caseous material being the contents of those cysts. This ovary is a good example of Hydrops Follicularum; it caused great pain—for past three years increasing in intensity. Patient made an excellent recovery.

Dr. Smith exhibited Large Dermoid Cyst, removed from patient, aged twenty-six, sent by Dr. Kelly, Eyrecourt, Galway. Sought operation on account of size of tumour. Teeth and hair are well seen; both incisors—eye and molar teeth—they apparently have enamel, and are like the milk teeth. Contents of cyst spilled into abdominal cavity. No use in washing out this greasy material, so peritoneum was carefully sponged and sebaceous material picked off. Drainage tube four days. Recovery excellent; highest temp., 99·6° F. on third day after operation; pulse 78.

Dr. Smith: Multilocular Ovarian Tumour, size 7th month pregnancy, removed from patient, aged twenty, sent from Birmingham, which caused no pain, but its rapid growth demanded operation. It felt like an œdematous fibroid tumour; its surface was very irregular, with flattened-out edges, under which the fingers could be pushed. There were numerous small fresh adhesions, easily separable. Both visceral and parietal layers of peritoneum were covered with a fine villous growth, and seemed very congested. Drainage tube, discharge so profuse, had to be retained three days. Patient's pulse never under 120 per minute. Made excellent recovery; stitches removed on tenth day.

DR. SMITH: Sloughing fibro-myomatous polypus, from posterior wall of fundus uteri. Patient suffered for two years from profuse hæmorrhage and fœtid watery discharge; was mistaken for cancer. Pedicle, which was small, was snipped by scissors. Vagina douched with hot water and plugged with iodoform gauze. Excellent recovery.

DR. SMITH: Par-ovarian Cyst, which had an unusually long pedicle; it was the size of fœtal head. This tumour caused little inconvenience up to last September, when the patient began to suffer from frequent paroxysmal pains, referred to tumour. Recovery good.

DR. SMYLY next took the chair, while the President exhibited an Ovarian Tumour.

The PRESIDENT said it was more interesting from a clinical point of view than from a pathological. At one time it was nothing more than a simple ovarian tumour, but about three months afterwards the patient was seized in the middle of the night with uterine pain and vomiting, and the next day there was extreme tenderness all over the abdomen. The pulse was 120 and the temperature was 103°, and on palpation over the abdomen in the right inguinal region he found a fairly solid mass. He did not make a vaginal examination, as the woman was unmarried; but on examining through the rectum he at once came down upon a fluctuating tumour. The suffering was most intense, and to make the diagnosis thorough he placed the patient under chloroform. He then diagnosticated an ovarian tumour with a twisted pedicle, which gave rise to the symptoms of peritonitis. On opening the abdomen a small cyst presented itself in the right inguinal region, and on tapping a quantity of fluid escaped. The examination of the pedicle was rendered difficult owing to the twisting, and as œdema had taken place it was difficult to decide whether the intestine was involved or not. On cutting through the peritoneum there was no intestine involved, so it was ligatured in the ordinary way and the tumour removed. Immediately after the operation the temperature fell to 99°, and the pain also subsided. The only medicine she got was ¼ gr. morphin suppository at night, and complete recovery was the result.

MR. M'ARDLE said there was enlargement in the right Fallopian region. The intestinal obstruction was not the result of the twisted pedicle but the result of direct inflammation passing to the ileo-cæcal region and causing spasm of the small intestine and reversed peristalsis.

DR. SMYLY mentioned the importance of operating on ovarian tumours as soon as they are diagnosticated. He had an opportunity of watching the growth of an ovarian tumour for some years; it grew from about the size of a billiard ball to that of a cocoa-nut. The intestinal obstruction was probably due to paralysis, the result of peritonitis.

Dr. Flynn exhibited a Par-ovarian Cyst. Patient recovered without any complication.

Dr. E. Hastings Tweedy showed a specimen of "Blighted Ovum," which came away from a woman confined in the Rotunda Hospital on the 18th November, 1892, six hours after she had been delivered of a full-term living child. The fœtus, when first seen, presented the following appearance and measurements:—Length, 9 c.m.; head about one-third the length of the body; toes and fingers well developed; the umbilical cord, 7 c.m. long, inserted into an indistinctly-formed placenta. From this it would appear that the fœtus had perished during some portion of the 3rd month, and the flattened appearance the ovum now presented is obviously the result of pressure exercised on it by the growing bag of membranes. There is no doubt that this is an example of the tolerably rare formation of "fœtus papyraceus." Dr. Tweedy read Prof. Spiegelberg's well-known explanation. When the formation has taken place with this condition present, "there are sure to be vascular anastomoses between the placentæ."

Dr. Kidd inquired whether there was evidence of any connection between the placenta proper and the one in which the fœtus was found. Dr. Tweedy said he could see no connection between the placenta of the living child and the blighted ovum, although he admitted the possibility of vascular connection.

Mr. M'Ardle exhibited a specimen of the Labia Majora, removed for perforating ulcer. He said it resembled Jacob's ulcer in some respects, but, strange to say, there was no evidence of malignancy. There was no infiltration, but it possessed everted edges, and was surrounded by a thickened ring. It also showed evidence of central necrosis. On going further into the groin he found an enlarged gland, and it left no doubt on his mind that he was dealing with cancer. It was only of six weeks' growth, but some scarred tissue existed along the labia for a year before that.

Dr. Smith inquired if the patient had had any pruritus. In cases he saw there was considerable pruritus for two or three years before the labia majora became affected. He thought Mr. M'Ardle did right in removing the glands. In a great many cases, where the glands are not much enlarged, the mere fact of the removal of the cancer caused the glands to atrophy. But in this case he agreed with the procedure carried out by Mr. M'Ardle.

Mr. Tobin said Mr. M'Ardle not alone removed the glands, but also the lymphatics between the gland and the tumour. He thought it was an important point not only to remove the glands, but also the lymphatics and fat in these malignant cases. The wound healed by first intention.

Dr. Smyly had a similar case in an old lady, but the disease returned in the lower glands of the groin.

Dr. Parsons wished to know if the enlargement of the glands was due to inflammation or to secondary deposits.

The **President** said that an interesting clinical point in the case was, that the lady was perfectly free from pain, and was able to move about without any difficulty. Her appearance was good, her appetite was good, and there was no fever whatsoever. It was an example more of lupus than of malignant disease. He thought it was always better to remove the glands lest there might be secondary deposits of cancer.

Mr. M'Ardle, in reply to Dr. Smith, said there was some irritation of the vulva some months before the appearance of the ulcer, and in the line of the ulcer there was indurated redness. He should have mentioned also that the patient's age was 38. In reference to the removal of the glands, he thought it was hardly fair even to leave the glands when uninfiltrated. In removal of the breast, he always made it a rule to remove the axillary fat and glands as well. He did not examine the specimen microscopically.

Mr. M'Ardle next exhibited a Renal Cyst. He said it was an exceedingly large tumour, which was at least three times the size it now looks. The kidney is flattened out over the tumour, and the cyst pressed against the ureter. The only point of interest was the way in which it simulated an ovarian tumour. It came down into the pelvis below the umbilicus, and was likewise fluctuating. Dr. Horne made a thorough examination of the uterus, and then they diagnosticated that it was a renal cyst. On account of its size, they decided upon the abdominal operation. It was found much easier, and in future he would certainly be inclined to do the abdominal operation. The ureter was found to be perfectly normal. However, after the third day the temperature went up, and on examination, they discovered a swelling and tenderness above the crest of the ilium. Assisted by Mr. Tobin, he cut down in the lumbar region, and there they discovered a half-pint of pus, and with the pus came away the upper part of the ureter. The curious thing in the case was, that for some days before the operation discharges of pus-like matter came away internally. One morning the urine would be clear, and the next it would be loaded with pus. After he cut down into the abscess and thoroughly irrigated it, the patient made remarkable progress, and is now perfectly well.

Mr. Tobin also bore witness to the great size of the tumour. He said the contents that came away were half solid, and would not come away through any cannula.

Mr. M'Ardle gave details of a case in which intra-uterine arrest of development occurred as a result of injuries sustained by the mother in the Armagh railway disaster in 1889. The mother was three months pregnant at the time of the accident, in which she received severe strain of the back, which confined her to bed for several weeks. At birth it was found that the spinal canal was incomplete, except at the middle dorsal region, resembling exactly the condition present in a three months' fœtus. The head also showed an arrest of development, the parietal upper frontal and upper occipital regions being covered only by thin membrane. The right hip-joint was also undeveloped, the femur being shorter than that of the opposite side. It seemed as if the injury to the mother had checked growth, leaving the parts described in the condition of development arrived at before the injury. Mr. M'Ardle exhibited plates to show that the condition found in this child three months after birth coincided accurately (as regards the spine) with the descriptions given by Humphreys and others of fœtal development between the third and fourth month. From this he argued that the accident to the mother was directly responsible for the arrest of development in the child.

Dr. M'Cullagh said the case of spinal bifida he had shown was ascribed by the mother to a blow on the back between the third and fourth months of pregnancy. On examination at the time he could see a distinct swelling over the dorsal region. The laminæ of the vertebræ were only in a rudimentary condition.

Dr. Smith said the whole case really rested upon the point of maternal impressions. Cases of ordinary deformities and arrested developments are commonly known as amniotic adhesions. But here they had this interesting fact; they had a distinct accident occurring at a distinct period. There was no abortion and no miscarriage, and the woman went on to her full term. The child was born of apparently normal length and weight, but with a well-marked deformity that is referred to that part of the child where the mother received the injury, *i.e.*, in the back. The question then arises as to the maternal impressions, and he believed that nervous impressions sometimes produced these strange deformities.

Dr. Smyly did not believe in it at all, and Mr. M'Ardle brought forward an ingenious theory; but the case was probably a remarkable coincidence, and nothing more. There is no connection between the fœtus and the mother, and the degree of nutrition does not influence the fœtus. For instance, women are seen in the last stage of consumption bringing forth fairly well-nourished children. His experience was, that if you give the woman twelve hours to consider she will account for any deformity.

Mr. Broomfield said there were other organs that were equally tender in this stage of fœtal life, and he failed to see why disease should concentrate itself altogether on the laminæ of the vertebræ. The fœtus was well developed, except in the laminæ and in the bones of the cranium. Mr. M'Ardle would therefore have to fall back upon the theory of impressions. But as the uterus influenced the whole structure, why should not the other structures suffer as well as the vertebræ? The coincidence was certainly very curious, but he thought that the doctrine of mal-nutrition would scarcely bear it out.

Mr. M'Ardle said the object he had in bringing the case forward was to elicit the opinions of his *confrères* on the subject. Dr. M'Cullagh's case of spinal bifida shows the truth of Dr. Humphrey's remark, that the vertebræ are the last closed. He simply queried the point regarding the maternal impression. Special injury to a nerve centre might interfere with certain nerve fibres, and it was absolutely certain that nervous influence must act upon the developing fœtus. And as in case of injury to the spinal cord, only one toe of the limb was found to slough; so in like manner, the mal-nutrition of the fœtus was regulated also. Therefore he did not see why the cause of local mal-nutrition could not be explained in the one case as well as in the other.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—C. J. Nixon, M.D.
Sectional Secretary—J. B. Story, F.R.C.S.I.
Friday, December 2, 1892.

Dr. Fraser, and afterwards the **President**, in the Chair.

Diffuse Cerebro-spinal Sclerosis.

The **President** read a paper on a case of this affection that had occurred under his care at the Mater Misericordiæ Hospital in April last. The patient was a man aged thirty-eight, who had suffered for a considerable time from symptoms of tabes, together with vertigo, ataxic speech, and inco-ordination of movement in the upper extremities, and had been bedridden for two months before his admission to hospital. On admission a large sacral bedsore had already formed, and he gradually sank. Most extensive lesions were found *post-mortem* by Dr. M'Weeney partaking of the character of disseminated sclerosis and of chronic myelitis.

Dr. **M'Weeney** then described at length the lesions found in the part of the central nervous system that had been examined—viz., from the lower end of the cord to the upper part of the medulla, and demonstrated a large series of sections prepared mostly by Weigert's hæmatoxylin method. Almost the entire medulla had been cut into sections 15 μ. thick, stained, and mounted in serial order by Weigert's collodion method. In two places—viz., the mid-dorsal region and the middle of the cervical enlargement—the continuity of the cord was found almost completely interrupted by the sclerotic process, the only part escaping at these levels being small portions of the antero-lateral and postero-external columns. The column of Goll was sclerosed from the lowest lumbar segment to its termination. There was also an annular band of sclerotic change immediately beneath the pia mater all round the cord throughout its entire length, and wedge-shaped areas of degeneration extended inwards at various levels. There was no tendency on the part of the morbid process to select any particular system or tract, but all were more or less affected at one level or another. In the lower part of the medulla there was a large tract of sclerosis on the right side involving the restiform body, the ascending *trigeminus* root and the *substantia gelatinosa*, whilst on the left the region immediately in front of the olivary body was sclerosed and so were the external fibres of the right pyramid. At the upper part of the medulla the appearances were quite different, and the alteration of distribution could be well traced through the series of sections. The speaker hoped to be able to carry the investigation up to the cerebral cortex.

Dr. Fraser said that Dr. M'Weeney's paper was to be considered as a report of half the case only, and the account of the remainder was to be expected at a future meeting, when the pathological examination should be completed. The vertigo and the curved lines of vision of which the patient complained could not be explained by the spinal lesions.

Adenoma of the Kidney.

Dr. Conolly Norman read a paper on adenoma of the kidney, and exhibited a specimen of that affection. He pointed out its rarity, and alluded to the fact that it was rarely named in English works on kidney disease. The condition was first recognised as adenoma by Sturm, and has been very fully described by Sabourin, who collected and investigated a large number of cases. Sabourin held that the condition was always associated with cirrhosis of the kidney. In Dr. Norman's case both the kidneys were cirrhotic—the left extremely so. In the most convex portion of the outer border of the right kidney was a solitary tumour projected about half an inch outside the surface of the organ and invaded the cortical substance to about the same depth. It was very distinctly encapsuled. Microscopically it consisted of tubular spaces lined with epithelium approaching generally the cylindrical type, with scanty connective tissue. The epithelial cells were mostly loaded with fat globules. The speaker alluded at some length to the views of Weichselbaum and Greenish, Sabourin, and Grawitz on the origin of these growths. He strongly contended that there was no sufficient evidence for the theory of Grawitz (that they develop from displaced embryonic fragments of supra-renal capsular tissue) and he believed that the most satisfactory explanation was that of Sabourin, who held that they originated in the proliferated epithelium of the convoluted tubules.

The **President** said that this was the first specimen which, to his knowledge, had been exhibited in Dublin. It was indeed a pathological curiosity, and he knew of no physical signs by which the lesion could be diagnosticated. He said he would like to ask Dr. Norman whether the tumour might arise from some of those cystic forms which are so commonly met with in cases of contracted kidney, and also what was the condition of the heart, and of the left ventricle in particular.

Dr. Norman said, in reply, that in one of the granulations of Bright he found a number of dilated tubes the epithelium of which appeared to be proliferating. The patient's heart was hypertrophied as a whole, and the left ventricle in particular.

Perforating Ulcer of the Duodenum.

Dr. M'Weeney exhibited a specimen of perforating ulcer of duodenum.

Separation of the Odontoid Process.

Dr. O'Carroll exhibited a specimen of separation of odontoid process.

The Section then adjourned.

SECTION OF SURGERY.

President—E. **Hamilton**, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—R. L. **Swan**, F.R.C.S.I.

Friday, December 9, 1892.

The **President** in the Chair.

Two Cases of Disease of Mastoid and Petrous Portions of Temporal Bone in connection with Disease of the Ear.

Mr. Doyle read a paper, "On Disease of the Ear and Temporal Bone." He brought forward two cases. In the first case chronic suppurative disease of middle ear and mastoid cells had eaten a circular opening half an inch in diameter, similar in appearance to a trephine hole, through right temporal bone, above and behind external auditory meatus; it communicated by an irregular opening with middle fossa of cranium, producing softening and abrasion of the under surface of temporo-sphenoidal lobe of brain.

The second case was operated on for caries and mastoid periostitis in September, and is still under treatment and progressing favourably.

Cancer of the Rectum.

Dr. Ball read, in abstract, a communication on cancer of the rectum. Dealing with the pathology of the subject, Professor Scott gave a lantern display of micro-photographs, chiefly from Dr. Ball's cases illustrating the following subjects:—1. Simple adenoma from rectum of child. 2. Simple adenoma which existed with cancer. 3. Edge of a growing epithelioma. 4. Central portion of an epithelioma. 5. Another similar specimen. 6. Section of lung with tumour secondary to rectal carcinoma. 7. Colloid cancer of rectum. 8. Melanotic sarcoma of rectum. 9. Spindle-celled sarcoma of rectum. 10. Round-celled sarcoma of rectum.

Dealing with the diagnosis, Dr. Ball laid great stress on the importance of early recognition, and the fact that many cases were treated as chronic dysentery where a digital examination would have shown that cancer existed. Having discussed the limits of an excision of the disease, he presented a table showing the results of excision in 9 cases in his practice. In 1 (melanotic sarcoma) the patient remained entirely free from recurrence and able to follow her occupation 8 years after operation; in another (cylinder-celled epithelioma) the patient, a medical man, remained quite free from return 6 years after operation; in 3 cases death followed operation, 1 being due to shock and 2 to septic peritonitis, while the remaining 4 lived for periods of from 1 to 3 years. He discussed the methods of reaching the disease higher up by division of the sacrum; two of his cases had been performed in this way, both of which were successful. He considered that these improved methods had largely increased the scope of the operation.

Regarding colotomy, the opinion was expressed that in a large proportion of cases of cancer unsuitable for excision obstruction never became a prominent symptom, and that these cases were much better left without operation. Colotomy was, however, clearly indicated where obstruction was commencing; colotomy should be had recourse to early, before any of the secondary changes due to obstruction were marked.

The operation proposed by Dr. Ball in 1884 of making the incision in the left linea semilunaris he still advocated strongly, and stated his belief that before long lumbar colotomy would cease to be a recognised surgical operation. He had much simplified the method of operation, so that now it could be done in a few minutes. The incision should be small—1½ inches—at the outer border of the rectus muscle. A loop of colon, drawn out and fixed by a button suture through the abdominal wound on either side and through the meso-colon; stitches through the abdominal incision at either angle, including the muscular coat (preferably the longitudinal band) of the bowel, usually sufficed to keep it in place. If the symptoms are not urgent the colon is not opened until adhesions have taken place; but in the cases where immediate opening has been practised no serious consequences have ensued. Extreme meteorism renders the operation somewhat difficult, and in two instances where this symptom was marked Dr. Ball had recourse to the lumbar incision; now, however, by making a small opening in the abdomen and plugging with sterilised sponges, he considers the anterior operation superior, even where there is an extreme amount of abdominal distension.

Dr. Ball adduced a table of 13 cases of colotomy which he had performed by incision through the linea semilunaris, in all of which recovery from the operation resulted and relief ensued.

The **President** could not help endorsing the statement of Dr. Ball that in many cases diseases of the rectum are allowed to go on for a very long time without being satisfactorily diagnosticated. He would therefore wish to impress upon younger surgeons the great importance and necessity of careful manual examination. He was not competent to speak very particularly as to operation by removal of the sacrum, but in removing rectal tumours he always found less difficulty with their posterior relations than with their anterior ones.

Mr. Thomson said he entirely concurred as to the number of cases coming into the hands of the surgeon when it was too late to do anything for them, the gravity of the symptoms not having been recognised. With regard to the removal of the rectum as compared with colotomy, there was a serious difference in the mortality returns. He thought that excision of the rectum was successful just in proportion as they found the disease low down and easily removable. But when the disease was near the sigmoid flexure and out of the reach of the finger, it required a very serious operation for removal. With regard to the contamination of the wound by fæces, why should they not anticipate mischief by diverting the discharge through an opening in the colon? In cases where the cancer was very high up he would first perform colotomy, and when the patient had recovered from that he would then proceed to the removal of the disease. He was also very glad to hear that Dr. Ball insisted on the small incision. He (Mr. Thomson) usually secures the bowel in the cord by a simple pin, which he passed transversely behind the colon and left it there for 48 hours. In one operation the time occupied was only 10 minutes.

Mr. Franks thought that surgeons might approach cases af cancer of the rectum with more confidence than hitherto. If they only got them in reasonable time they might hope that the disease would not return, and in this way he thought it was closely allied to epithelioma of the lip. In proof of this he instanced the case of a lady from whom he removed the whole of the anus and a good deal of the rectum 6 years ago, and she is still leading a perfectly healthy life. He condemned the extremely deleterious treatment of caustics, but concurred with Mr. Thomson as to the necessity of performing colotomy before excision.

Mr. Thornley Stoker said he cordially endorsed the view that cancer should not be removed except in cases where the tumour was movable. He thought that the operation of proctectomy had been greatly rushed in late years. The preliminary operation of colotomy in all serious cases of cancer of the rectum recommended itself strongly to his judgment—first, because the danger of septic inflammation might be avoided; and, secondly, it was a question whether, after removal of cancer of the rectum, any fæcal matter should ever be allowed to pass through it again. It was better to ablate the rectum altogether than to attempt to preserve the old passage. He also thought it was a much easier operation in the female than in the male subject. He endorsed the view that colotomy should not be undertaken in every case of cancer, because a certain proportion of cases do not end in obstruction. He thought that the operation of inguinal colotomy would eventually beat the lumbar out of the field. The lumbar one was not only awkward, but it was also much more difficult and dangerous. Besides, the inguinal operation was much more certain, because of the variations which the great bowel is subject to. His own practice is to open the bowel where distension is indicated, in the semilunar line, and not too near to Poupart's ligament, because it would be difficult to wear a truss in that position. He had a special pad constructed which he found very effective in preventing the escape of fæces or fluid. He passes the pin behind the bowel and allowed it to lie on the surface of the abdomen. This forces the posterior wall of the bowel forwards, and forms a spur which is useful afterwards in preventing the discharge of fæces down into the distal portion of the bowel. He had also learned one practical point from Mr. Thomson. That was, to dust the surface of the bowel with iodoform and cover it with guttapercha tissue. Gauze always adhered to the lymph on the bowel, and caused much trouble at the dressing.

Mr. Myles said there were some statements in the paper with which he was forced to join issue. There was great danger, when the bowel was removed by making a section of the sacrum, on account of the whole length of the spinal canal being exposed. They could not divide the 3rd sacral vertebra without exposing the whole canal. If, however, a previous colotomy be performed, and contact with the spinal canal prevented, the operation might possibly be successful. He never yet saw the colon jumping into the wound unless when artificially inflated, and he never saw the sigmoid flexure lying in the position in which it is given in the books. Whether it lies in the pelvis or in the left iliac fossa appears to depend on the condition of the bladder. If the bladder is distended it will be found in the left iliac fossa, and *vice versâ.* He next referred to the incisions in anterior colotomy, and said, as it was made in the vertical axis of the abdominal muscles, the wound must necessarily gape. He would make his incision parallel to the fibres of the external oblique, which would form an automatic sphincter. He thought that cancer which does not go above the level of the sphincter was an ordinary squamous epithelioma of the skin, and could be easily removed. With the greatest possible respect, he could not see how anyone could excise the whole rectum through the perinæum.

Mr. Tobin referred to a case of stricture which, in a short time, was cured without the necessity of any operation of colotomy. The patient was taught to wash out the bowel, and the result was very successful. He also advocated the necessity for teaching patients how to use an enema.

Dr. Bennett mentioned a case in which he removed the rectum by means of a transverse incision through the sacrum. The man was in great agony, but had no obstruction of the bowel and no bladder trouble. It was clearly impossible to remove it by perineal incision, and the hæmorrhage from the middle sacral artery was very little indeed.

Dr. Brooks, in referring to the danger of sepsis, säid that the cauda equina extends no lower than the 2nd sacral vertebra. With regard to the semilunar incision, in a certain proportion of cases he found the sigmoid flexure coming up into the opening, and in other cases the small intestine; and by pushing the latter aside the sigmoid flexure could be drawn easily into the wound.

Dr. Ball, in reply, said he was obliged to condense his paper owing to the time allotted, and some of the points omitted were made the subject of discussion. In reply to Mr. Thomson in the first case exhibited, he removed 4 or 5 inches of the rectum for melanotic cancer, and the patient would have certainly died in a few months had he not done so. The second case was one of the glandular form, and he had as yet no opportunity of seeing one of the squamous type. There was a danger in leaving the colon without sufficient sutures, and he much preferred the flexible sutures with buttons to the stiff pins. He believed careful and accurate suturing was one of the most essential elements to success. In reply to Dr. Myles, he said the canal was not opened up, and if they went above the 3rd sacral vertebra paralysis of the bladder was likely to occur. He did not say that the colon ever jumped into the wound. With regard to the incision in the semilunaris, prolapse never occurs, as it would if made lower down.

The Section adjourned.

SECTION OF MEDICINE.

President—**Walter G. Smith**, M.D.; President of the Royal College of Physicians of Ireland.

Sectional Secretary—**A. N. Montgomery**, M.R.C.P.I.

Friday, Dec. 16, 1892.

The **President** in the Chair.

Glaucoma in Young People.

Mr. Story read a paper upon four cases of primary glaucoma in young people.

Case 1.—A girl of thirteen, who developed acute glaucoma after a subconjunctival injection of cocaïn, which was made preliminary to an operation for squint. This patient developed a precisely similar attack in the other eye from the same cause. Both attacks were rapidly cured by eserin.

Case 2.—A young woman of eighteen, who developed inflammatory glaucoma shortly after a *mariage de convenance.* She probably had chronic glaucoma for some time previously. Both eyes were affected. Operative interference lowered the tension in both eyes, and raised vision in the better-seeing eye to counting fingers at 2 m. Previously it had been fingers at ½ m. The "cure" lasted for at least two years.

Case 3.—A woman of thirty-five, with left eye blinded by acute glaucoma.

Case 4.—A man of thirty, with small cornea (diameter 11 mm.) and chronic inflammatory glaucoma of left eye. His brother also suffered from the same disease, one eye being blinded by it. During a glaucomatous attack Mr. Story observed both venous and arterial pulsation in the retina at the same time, the arterial pulse being visible in all the larger arteries and to a given distance from the papilla.

Mr. Story also reported that he had measured the diameter of the cornea in thirty eyes suffering from primary glaucoma; and although he himself was inclined to hold by Mr. Priestley Smith's theory on glaucoma, the results of these observations did not lend it much support.

The smallest diameter observed was 11 mm., and this was found in 8 eyes. The largest was 13 mm., which occurred in but one eye. The average of the 30 was 11·88 mm., or 0·28 mm. above the average obtained by Mr. Smith in normal eyes.

The **President** said Mr. Story's first case is of interest on account of the youth of the patient and also of the ætiology of the disease, which adds another terror to the use of cocaïn. The same local effect may be induced by atropin, but not in such a striking way. The mechanism of mydriasis is not yet explained, inasmuch as it varies with different drugs, and also because the movements of the iris are not thoroughly understood. Any observation pointing to the exact effects of different drugs must be interesting in a practical way to oculists, and in a theoretical way to physiologists.

Mr. Swanzy said that the point which interested him most in Mr. Story's paper was that the measurements of the cornea in three of the cases were up to the normal average, which would seem to point to the eyes being of normal size and quite able to contain the lens, and to the unlikelihood of the perilental space being of small size. The explanation of these three cases is therefore difficult. The case is different with the others, in which the eyes were smaller than usual. He had seen a case of chronic simple glaucoma in a child of nine.

Mr. A. H. Benson said that it would be interesting to know if in those cases of high tension in young people, the whole globe of the eye was enlarged. Did they begin as simple chronic glaucoma, or was there anything special in their condition? He remembered a case of glaucoma in a girl blind for many years, who had the appearance of enlargement of the primary type.

Mr. Story, in reply, said that the occurrence of glaucoma in a large eye was very curious. He had the measurements of thirty eyes, in which glaucoma existed, and one of these was that of a young man, thirty-four years of age, who had chronic inflammatory glaucoma in both eyes, and yet his corneal diameter in each eye was 12½ mm. He had all the recognised symptoms except a shallow anterior chamber and a narrow corneal diameter. The young married woman had evidence of general dilatation of her eyes. They were myopic, and he attributed the myopia to the occurrence of the high tension. The bottom of the cup was 8 degrees myopic and the margins 3 degrees in one and 4 degrees in the other eye.

A Case of Syringomyelia.

Dr. Coleman and **Dr. O'Carroll** showed a case of syringomyelia with the following symptoms:—Distinct atrophy of the claviculo-occipital portion of the right trapezius muscle; diffused trophic changes, accompanied by a solid œdema in the right hand and arm, and to a less degree in the left; spastic phenomena in the right leg; loss of tactile sensibility in most of the right upper limb and right side of trunk; loss of pain sensibility in the left hand, arm, and side of trunk; loss of muscular sense in the right arm, and of temperature sense in both upper limbs and over most of the trunk; finally tenderness on pressure in right inferior costal area.

The **President** said he hoped that the authors of the paper would acquire possession of the spinal cord of the case described. We do not know whether the term syringomyelia covers one pathological condition only. Since the condition is liable to occupy different regions and to involve different portions of grey and white matter, an exact clinical portraiture was not to be had. Dr. Ormerod had described a case similar to Dr. O'Carroll's, except that his case had also curvature of the spine. The two main points relied on by him, as well as by Dr. O'Carroll, were extreme muscular atrophy and interference with thermal sensations.

Note on a Case of Pin-swallowing.

Dr. **Knott** read a paper on pin-swallowing, and exhibited a pin which had been passed *per vias naturales*, 16 days after it was swallowed, by a child of three years old. He referred to another case in which the pin was swallowed by a child aged fourteen months, and was passed in the same way after an interval of eight days. He also mentioned a further case in which he had extracted a needle from the inside of the thigh of a child of a little over two years old, nine months after it was swallowed. In none of the cases had any troublesome symptoms followed the accident.

The **President** said that cases of supposed pin-swallowing were not to be treated with contempt, but that the precautions laid down as to diet should be adopted. Some years ago a child was brought to him who was stated to have swallowed a pin. He found the pin in the child's mouth, the head in one tonsil and the point in the opposite. Three years ago a lady came to him complaining of pain in her throat. She said she had swallowed a large piece of chicken. He drew up from her pharynx by means of a catheter a piece of bone.

Dr. J. W. **Moore** said that he had treated a case of a blind woman who swallowed a jagged piece of a mutton bone which had got into her soup. She vomited it after some retching and coughing. He had a similar case of a county court judge who swallowed a piece of a chicken bone. Neither the jagged mutton bone nor the sharp chicken bone seemed to have inflicted any serious injury on the soft parts.

Dr. **Parsons** mentioned a case which occurred in Sir P. Dun's Hospital of a girl who swallowed a plate for holding false teeth. She was treated in the usual way, and in five or six days the plate was passed *per rectum*. She had no further symptoms. The plate had two very sharp hooks on it, and it is strange how it traversed the intestines without causing injury.

Dr. **Potter** mentioned some cases of foreign bodies being swallowed. One was of a shawl pin. It lodged in the trachea and was extracted, except the head, which fell off and into one of the bronchi. It would be frequently coughed up into the trachea, but no further. The patient—a girl—left hospital, and her general health failed and she returned to hospital. An opening was made in the trachea and the head of the pin was coughed out of it. The girl completely regained her strength. He also saw a case of a pin removed from the neck; of a piece of bone removed from the pharynx per orem; and of a coin passed per rectum—all of which had been swallowed.

Dr. Burgess mentioned a case he saw of prolapse of the rectum, and in the prolapsed part he found a pin embedded. He had another case of a coin in the rectum, causing intense pain and drawing up of the anus. He removed it with his finger.

Dr. Dawson recently saw a case in which about 8 oz. of hardware were removed from a lunatic's stomach. During life there had been no symptoms caused by their presence.

Dr. Knott briefly replied.

The Section then adjourned.

PENTAL, C_5H_{10}.

Pental, the new anæsthetic, the full title being Pental-triméthyl-éthylène (Vratch), is a limpid, colourless, very mobile liquid. It boils at 38° C. It evaporates quickly at ordinary temperatures. Insoluble in water, it dissolves readily in ether, chloroform, and absolute alcohol. MM. Breccar and Linder have produced anæsthesia on 120 subjects, ranging from 4 years to 56 years of age without any unpleasant effects. In one case the anæsthetic condition was kept up for 31 minutes, requiring 50 grammes of the drug. An erythematous rash followed from the use of the drug in two cases. Patients recover from the use of the anæsthetic quickly and absolutely.—*Les Nouveaux Rémèdes*, 1892, No. 12.

ADULTERATION IN AMERICA.

Some four years ago the chemist of the American Society for the Prevention of the Adulteration of Food, &c., founded, on his own examinations and those of other analysts, the following averages of percentage of adulteration of the commoner articles in use:—Olive oil, 60; castor oil, 20; blue ointment, 61; tincture of opium, 58; spices and condiments, 66; candies, 33; syrups, 50; cream of tartar, 40; baking-powder, 44; butter, 40; bread and pastry, 15; milk, 40; lower grades of sugar, 20; lard, 70; tea, 40; ground coffee, 49; cider-vinegar, 80; ice-cream, 55; chocolate, 38; honey, 24; wine, 40; beer, 45; spirituous liquors, 33.

SALE OF HOSPITAL BANDAGES.

In March, 1889, the State Board of Health of Pennsylvania inquired of 125 hospitals and other public institutions how they disposed of their waste rags and bandages. Of 48 from which replies were received 33 reported that they burned them, 3 sold them after "disinfection," 12 disposed of them after washing.

SANITARY AND METEOROLOGICAL NOTES

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Vital Statistics

For four Weeks ending Saturday, December 3, 1892.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Nov. 12.	Nov. 19.	Nov. 26.	Dec. 3.		Nov. 12.	Nov. 19.	Nov. 26.	Dec. 3.
Armagh -	7·0	14·0	7·0	28·0	Limerick -	9·8	12·6	9·8	18·2
Belfast -	28·2	32·0	25·4	25·0	Lisburn -	4·3	4·3	4·3	8·5
Cork -	22·1	24·2	16·6	32·5	Londonderry	12·6	20·4	4·7	20·4
Drogheda	13·2	17·6	26·4	26·4	Lurgan -	31·9	31·9	22·8	27·4
Dublin -	23·4	22·5	22·5	22·5	Newry -	24·1	32 2	24·1	20·1
Dundalk -	12·6	12·6	29·3	20·9	Sligo -	10·2	15·2	30·5	35·5
Galway -	15·1	45·3	11·3	18·9	Waterford -	22·5	27·5	20·0	20·0
Kilkenny	23·6	37·8	18·9	33·0	Wexford -	22·6	18·1	9·0	27·1

In the week ending Saturday, November 12, 1892, the mortality in thirty-three large English towns, including London (in which the rate was 18·8), was equal to an average annual death-rate of 19·5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·6 per 1,000. In Glasgow the rate was 22·4, and in Edinburgh it was 20·8.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 22·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·3 per 1,000, the rates varying from 0·0 in nine of the districts to 8·1 in Newry—the 6 deaths from all causes registered in that district comprising 1 from scarlatina, and 1 from diarrhœa. Among the 141 deaths from all causes registered in Belfast are 1 from measles, 3 from whooping-cough, 1 from enteric fever, and 3 from diarrhœa.

In the Dublin Registration District the registered births amounted to 149—75 boys and 74 girls; and the registered deaths to 160—78 males and 82 females.

The deaths, which are 19 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·9 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 23·4 per 1,000. During the first forty-five weeks of the current year the death-rate averaged 29·9, and was 2·7 over the mean rate in the corresponding period of the ten years 1882–1891.

Only 12 deaths from zymotic diseases were registered, being 7 under the number for the preceding week, and 14 below the average for the 45th week of the last ten years. They comprise 2 from measles, 1 from ill-defined fever, 4 from enteric fever, and 2 from diarrhœa.

The number of cases of enteric fever admitted to hospital was 32, being an increase of 10 as compared with the admissions for the preceding week and equal to the admissions in the week ended October 29. Fourteen enteric fever patients were discharged and 152 remained under treatment on Saturday, being 18 over the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 9 cases of scarlatina: 30 cases of the disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 35, being equal to the number for the week ended November 5, but 2 below the average for the 45th week of the last ten years. The 35 deaths comprise 21 from bronchitis and 10 from pneumonia or inflammation of the lungs.

In the week ending Saturday, November 19, the mortality in thirty-three large English towns, including London (in which the rate was 18·4), was equal to an average annual death-rate of 18·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·5 per 1,000. In Glasgow the rate was 21·4, and in Edinburgh it was 21·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 25·2 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·5 per 1,000, the rates varying from 0·0 in Limerick, Dundalk, Wexford, Lurgan, and Armagh, to 5·1 in Sligo—the 3 deaths from all causes registered in the last-named district comprising 1 from typhus. Among the 160 deaths from all causes registered in Belfast are 1 from measles, 1 from typhus, 2 from whooping-cough, 2 from enteric fever, and 1 from diarrhœa. The 13 deaths in Londonderry comprise 1 from whooping-cough, 1 from enteric fever, and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 155—70 boys and 85 girls; and the registered deaths to 160—79 males and 81 females.

The deaths, which are 26 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·9 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 22·5 per 1,000. During the first forty-six weeks of the current year the death-rate averaged 29·8, and was 2·6 over the mean rate in the corresponding period of the ten years 1882–1891.

Only 13 deaths from zymotic diseases were registered, being 1 over the low number for the preceding week, but 8 under the average for the 46th week of the last ten years. They comprise 1 from measles, 1 from influenza, 1 from whooping-cough, 2 from enteric fever, 5 from diarrhœa, and 2 from erysipelas.

The number of cases of enteric fever admitted to hospital was 16, being a decrease of 16 as compared with the admissions for the preceding week and 6 under the number for the week ended November 5. Fifteen enteric fever patients were discharged, 2 died, and 151 remained under treatment on Saturday, being 1 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 6 cases of scarlatina: 31 cases of the disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 39, being 5 over the number for the week ended November 12, but 2 under the average for the 46th week of the last ten years. The 39 deaths comprise 28 from bronchitis and 8 from pneumonia or inflammation of the lungs.

In the week ending Saturday, November 26, the mortality in thirty-three large English towns, including London (in which the rate was 17·7), was equal to an average annual death-rate of 18·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·7 per 1,000. In Glasgow the rate was 23·3, and in Edinburgh it was 24·0.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 21·1 per 1,000 of the population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·2 per 1,000, the rates varying from 0·0 in eight of the districts to 5·1 in Sligo—the 6 deaths from all causes registered in that district comprising 1 from typhus. Among the 127 deaths from all causes registered in Belfast are 1 from each of the following diseases, viz.—scarlatina, typhus, whooping-cough, enteric fever, and diarrhœa. The 24 deaths in Cork comprise 1 from whooping-cough, 1 from enteric fever, and 1 from diarrhœa. The 8 deaths in Waterford comprise 1 from whooping-cough and 1 from enteric fever.

In the Dublin Registration District the registered births amounted to 173—88 boys and 85 girls; and the registered deaths to 153—70 males and 83 females.

The deaths, which are 37 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·8 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 22·5 per 1,000. During the first forty-seven weeks of the current year the death-rate averaged 29·6, and was 2·4 over the mean rate in the corresponding period of the ten years 1882-1891.

Only 8 deaths from zymotic diseases were registered, being 5 under the low number for the preceding week, and 16 under the average for the 47th week of the last ten years. They comprise 1 from whooping-cough, 4 from enteric fever, and 2 from diarrhœa.

The number of cases of enteric fever admitted to hospital during the week was 12, being a decrease of 4 as compared with the admissions for the preceding week and 20 under the number for the week ended November 12. Forty-seven enteric fever patients were discharged and 116 remained under treatment on Saturday, being 35 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 5 cases of measles and 6 of scarlatina: 7 cases of the former and 34 of the latter disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 34 for the week ended November 12, to 39 for the following week, rose to 41, being equal to the average for the corresponding week of the last ten years. The 41 deaths comprise 26 from bronchitis and 9 from pneumonia or inflammation of the lungs.

In the week ending Saturday, December 3, the mortality in thirty-three large English towns, including London (in which the rate was 17·7), was equal to an average annual death-rate of 18·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·2 per 1,000. In Glasgow the rate was 21·8, and in Edinburgh it was 27·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·0 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in ten of the districts to 10·2 in Sligo—the 7 deaths from all causes registered in that district comprising 1 from typhus and 1 from enteric fever. Among the 125 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 1 from typhus, 1 from whooping-cough, 1 from diphtheria, and 4 from diarrhœa. The 47 deaths in Cork comprise 1 from typhus, 1 from whooping-cough, and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 183—76 boys and 107 girls; and the registered deaths to 156—60 males and 96 females.

The deaths, which are 36 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·3 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 22·5 per 1,000. During the first forty-eight weeks of the current year ending with Saturday, December 3, the death-rate averaged 29·5, and was 2·2 over the mean rate in the corresponding period of the ten years 1882–1891.

Seventeen deaths from zymotic diseases were registered, being 9 over the low number for the preceding week, but 5 under the average for the 48th week of the last ten years. They comprise 1 from scarlatina, 1 from typhus, 3 from influenza, 5 from enteric fever, 2 from diarrhœa, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital is 20, being an increase of 8 as compared with the admissions for the preceding week and 4 over the number for the week ended November 19, but 12 under that for the week ended November 12, Eighteen enteric fever patients were discharged and 118 remained under treatment on Saturday, being 2 over the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 2 cases of measles and 2 of scarlatina: 6 cases of the former and 30 of the latter disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 39 for the week ended November 19, to 41 for the following week, fell to 35, or 11 under the average for the corresponding week of the last ten years. The 35 deaths comprise 26 from bronchitis and 7 from pneumonia or inflammation of the lungs

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N Long.* 6° 15′ *W., for the Month of November,* 1892.

Mean Height of Barometer,	29·922 inches.
Maximal Height of Barometer (on 27th, at 9 p.m.),	30·371 „
Minimal Height of Barometer (on 14th, at 9 p.m.),	29·264 „
Mean Dry-bulb Temperature,	46·1°.
Mean Wet-bulb Temperature,	44·5°.
Mean Dew-point Temperature,	42·8°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·276 inch.
Mean Humidity,	89·0 per cent.
Highest Temperature in Shade (on 4th),	56·8°.
Lowest Temperature in Shade (on 1st),	31·0°.
Lowest Temperature on Grass (Radiation) (on 1st),	24·7°.
Mean Amount of Cloud,	63·3 per cent.
Rainfall (on 19 days),	2·404 inches.
Greatest Daily Rainfall (on 18th),	·718 inch.
General Directions of Wind,	S.S.E., S., W.S.W.

Remarks.

A dull, damp, open month, with a monopoly of winds from equatorial quarters (S.E., S., and S.W.), and scarcely any frost. The most remarkable feature in the weather was the advance in temperature as compared with the preceding October. The mean of the maximum and minimum readings of the thermometer was as much as 2·1° above that of October, and the mean dry bulb reading at 9 a.m. and 9 p.m. was 46·1°, compared with 43·9° in October—an advance of 2·2°.

In Dublin the arithmetical mean temperature (46·9°) was decidedly above the average (44·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 46·1°. In the twenty-seven years ending with 1891, November was coldest in 1878 (M. T. = 38·2°), and in 1870 (M.T. = 42·2°), and warmest in 1881 (M.T. = 50·3°). In 1886, the M. T. was as high as 46·4°; in the year 1879 (the "cold year") it was 43·9°; in 1887, it was as low as 42·6°; in 1888, it was as high as 47·5°; in 1889, it was 46·4°; in 1890, it was 45·3°; and in 1891, it was 43·4°.

The mean height of the barometer was 29·922 inches, or 0·062 inch above the corrected average value for November—namely, 29·860 inches. The mercury rose to 30·371 inches at 9 p.m. of the 27th, and fell to 29·264 inches at 9 p.m. of the 14th. The observed range of atmospherical pressure was, therefore, 1·107 inches—that is, slightly more than one inch and one-tenth.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 46·1°, or 2·2° *above* the value for October, but 7·5° below that for September, 1892. The arithmetical mean of the maximal and minimal readings was 46·9°, compared with a twenty-five years' average of 44·7°. On the 4th, the thermometer in the screen rose to 56·8°—wind, S.S.W.; on the 1st the temperature fell to 31·0°—wind, calm. The minimum on the grass was 24·7°, also on the 1st.

The rainfall was 2·404 inches, distributed over 19 days—the rainfall was slightly below, while the rainy days were above the average The average rainfall for November in the twenty-five years, 1865–89, inclusive, was 2·452 inches, and the average number of rainy days was 17·0. In 1876 the rainfall in November was large—3·614 inches on 20 days. In 1872, also, 3·414 inches fell on 24 days; in 1887, 3·012 inches fell on 18 days; in 1888, 6·549 inches fell on 26 days; in 1890, 4·212 inches fell on no less than 27 days; and in 1891, 2·911 inches fell on 15 days. On the other hand, the rainfall in 1889 was only ·929 inch on 9 days; in 1870 only 1·218 inches were measured on but 11 days; and in 1879 only 1·251 inches on but 10 days.

High winds were noted on 10 days, but attained the force of a gale on only one occasion—the 28th. The atmosphere was more or less foggy in Dublin on the 1st, 6th, 7th, 9th, 10th, 16th, 19th, and 24th.

A lunar halo was seen on the 5th, when also there was a lunar rainbow.

With the coming of November, the cold and rawness of October gave place to southerly winds, genial warmth, and very bright, sunny intervals. On Tuesday morning, the 1st, hoar frost and dense smoke fog prevailed for a time in Dublin, but later in the day southerly winds set in and temperature rose many degrees. Very open weather continued from this time to the end of the period. The days were fair and remarkably sunny, while warm rains usually fell at night. A lunar rainbow appeared at 5 45 p.m. of Saturday, and a lunar halo at 9 p.m. In Dublin the height of the barometer ranged from 29·869 inches at 9 a.m. of Tuesday (wind calm) to 29·377 inches at 7 a.m. of Thursday (wind S.W.). On Tuesday the thermometer fell to 31·0° in the screen and to 24·7° on the grass. On Friday the maximum temperature in the screen was 56·8°. The rainfall was ·472 inch on five days, ·217 inch being measured on Thursday. The wind was southerly and southwesterly.

Changeable, but generally favourable, weather prevailed during the week ended Saturday, the 12th. Temperature was especially unstable, owing to the alternate prevalence of southerly wind and calm, of clouds and of clear sky. After Monday an anticyclone formed over France and Germany, so that a southerly or southwesterly current of air was determined over the British Isles. The first two days were quiet and very fine, although aze and fog hung over the city of Dublin from time to time—on Monday evening the fog was very dense. This was followed by a considerable fall of rain at night, after which the weather became fine and extremely mild. Rain fell at intervals, but not heavily, on Wednesday. At night the sky cleared and temperature gave way, so that vapour fog worked up from W. after 9 p.m. Two very pleasant mild days followed but Saturday proved rather dull and showery and rain fell heavily in the evening. In Dublin the corrected mean temperature was 46·6°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 45·9° On Wednesday the thermometers in the screen rose to 54·7°; on Monday they fell to 33·8°. The rainfall was ·407 inch on four days—·132 inch being measured on Monday and ·213 inch on Saturday. The prevailing winds were S.W. and S. The mean height of the barometer was 30·002 inch, pressure varying from 30·171 inches at 9 a.m. of Monday (wind W.), to 29·705 inches at 9 p.m. of Saturday (wind S.), when a V-shaped depression was passing over the country.

All through the week ended Saturday, the 19th, an anticyclone, or area of high atmospherical pressure, held over Central Russia, where the barometer ranged from 30·40 inches to 30·60 inches and upwards. At the same time pressure was about three quarters of an inch to an inch and three-tenths lower than those values over the Atlantic seaboard in the North-west. Hence a prevalence of southerly and southwesterly winds and open, but changeable, weather was reported from all parts of Europe. On Sunday a curious V-shaped depression lay over the Irish Sea, causing light N. winds and cool weather in Ireland, S. winds and warm weather in England. On Monday morning the barometer was down to 29·19 inches at Belmullet, and heavy rain prevailed over Ireland, accompanied by fresh to strong southerly winds. As this disturbance travelled away to the northward, the weather became fine and quiet in Ireland, while a depression advanced from S.S.W. over the S. and S.E. of England, where much rain fell on Tuesday and Wednesday (1·20 inches in London). On Friday an equally heavy downpour of rain occurred in Ireland, in connection with a new area of low pressure, which showed itself in the West on Thursday. Saturday was a fine, quiet, cold day, and in the afternoon it became extremely foggy. Ground frost set in at night. In Dublin the mean height of the barometer was 29·705 inches, pressure varying from 29·264 inches at 9 p.m. of Monday (wind, S.W.) to 29·979 inches at 9 a.m. of Thursday (wind, S.S.E.). The mean temperature was 46·2°. The mean dry bulb temperature at 8 a.m. and 9 p.m. was 44·9°. On Monday the thermometers in the screen rose to 56·4°; on Saturday they fell to 34·0°. The prevailing winds were S. and S.W. Rain fell on three days, to the amount of ·923 inch, ·718 inch being measured on Friday.

Very dull, damp, but mild weather prevailed for the most part during the week ended Saturday, the 26th; but this week is particularly noteworthy for an excessive rainfall over the south of Ireland. At Roche's Point, Co. Cork, 4·10 inches of rain were measured up to Saturday morning; and at Valentia Island the amount was 3·20 inches in the same period. The general distribution of atmospherical pressure which led to this unusual local precipitation consisted in the presence of a large anticyclone to the eastward and northeastward of Great Britain, while areas of low pressure advanced over the west and south of Ireland, but failed to make headway against the high-pressure area to the eastward. The winds in Ireland were constantly S. or S.E. in consequence of this arrangement of pressure. On Thursday, there was a temporary break up of the anticyclone owing to the advance of a low pressure system over Northern Europe from N.W., but on Friday a new anticyclone formed over the S. of Norway while a fresh depression edged in over Ireland from W. Very little rain fell during the week in Scotland, where sharp frost occurred on Wednesday, the thermometer falling to 21° at Nairn. On Saturday a fresh N.W. wind suddenly set in and cleared the sky. In Dublin, the weather was dry from Sunday night to Wednesday evening, but Thursday and Friday were gloomy, damp days. The mean height of the barometer was 30·129 inches, pressure ranging from 29·833 inches at 9 a.m. of Sunday (wind, S.S.E.) to 30·279 inches at 9 p.m. of Saturday (wind, W.N.W.). The mean temperature was 47·0°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 47·1°. On Monday, Friday, and Saturday, the screened thermometers rose to 51·6°, having fallen on Sunday to 33·7°. Rain fell on four days to the total amount of ·464 inch, ·292 inch being registered on Friday. The prevalent wind was south-easterly. The mean temperature was 5° above that of the week ending October 22nd (42°). On the Continent severe cold set in towards the lose of this week.

The last four days of the month (27th–30th) were changeable. At first an anticyclone in the South caused a warm westerly current of air to pass over the British Islands, so that the thermometer rose at Nairn, in Invernessshire, to 59° on the 28th, and to 60° on the 29th. Extensive depressions were found in the far north on the 29th and 30th, the barometer falling to 28·45 inches at Haparanda, Gulf of Bothnia, on Tuesday evening, the 29th. Fresh westerly gales were felt in many districts in consequence. The month closed with a fine, cold day.

The rainfall in Dublin during the eleven months ending November 30th has amounted to 24·849 inches on 186 days, compared with 15·378 inches on 141 days during the same period in 1887, 25·768 inches on 173 days in 1888, 25·718 inches on 178 days in 1889, 25·706 inches on 189 days in 1890, 24·521 inches on 163 days in 1891, and a 25 years' average of 25·292 inches on 177·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in November, 1892, was no less than 5·020 inches distributed over 25 days. Of this quantity ·780 of an inch fell on the 18th, and ·640 of an inch on the 3rd.

From January 1st, 1892, up to November 30th, rain fell at Knockdolian, Greystones, on 165 days, and to the total amount of 32·243 inches.

WATER PURIFICATION BY METALLIC IRON.

ANTWERP is supplied with filthy water from the River Nethe purified by metallic iron at Malines, ten miles distant. Dr. M'Clelland examined the process in 1888, and reported to the Pennsylvania State Board of Health. The river is narrow and sluggish, covered with green slime, and generally disgusting in appearance. After purification it is delivered clear and limpid to "the fortunate citizens of Antwerp." The method essentially consists in passing the water through a revolving cylinder containing small pieces of metallic iron, "so that the iron is thrown in constant contact with the water instead of the water passing through the iron—a very important difference." The suggestion, due to Sir Frederic Abel, was worked out by Mr. Anderson. It is said that the water thus treated is completely freed from germs, bacilli, and all other extraneous matters. The process is simple and cheap. Its efficiency was tested by about 200 analyses, performed by such experts as Frankland and Tidy and the English authorities in France and Belgium. It was found that the organic matter was reduced by 45 to 85 per cent., the albuminoid ammonia by 50 to 90 per cent., and all free ammonia removed. The method has been applied to the water of the Delaware River in Pennsylvania with success. It is stated that 15 lbs. of iron will purify 1,000,000 gallons. After the iron process the water is aërated by passing through vessels filled with coke, and then filtered.

MILK ADULTERATION.

CHICAGO, we learn from the *Journal of the American Medical Association*, has made an addition to the adulteration armamentarium in the form of a "milk-expanding compound." "This substance, when added to watered milk, makes it resemble pure milk quite closely in both taste and appearance. . . . In fact, milk which has been diluted with four or five times its bulk of water may be made to pass current by the addition of a small quantity of this substance." It seems to consist of "a thick solution of cane and moist sugars, with a little salicylic acid and salts, of which common salt make up the bulk." There is no reason to suppose that Chicago enjoys a monopoly of the use of this material.

PERISCOPE.

THE KEELEY CURE.

The *Philadelphia Medical News* gives the following extract from the *N. Y. Herald* of 16th May last. Some of our less reverent Transatlantic contemporaries seem to consider the incident illustrative of the proverb, "Birds of a feather flock together:"—"The Rev. T. De Witt Talmage stood on the platform of the Brooklyn Tabernacle last night with Dr. Leslie E. Keeley, of Dwight, Ill., and helped to advertise that gentleman's institutions for the cure of drunkenness. Several members of the congregation walked out of the church before the meeting was over. Dr. Keeley, accompanied by his wife, went to Brooklyn in the afternoon, and after dining with Dr. Talmage went to the Tabernacle. Rev. Dr. I. K. Funk offered prayer, in which he called down the blessings of heaven on Dr. Keeley, who, he said, was 'the glory of the nineteenth century.' The congregation sang 'Hold the Fort,' and then Dr. Talmage introduced the lecturer, who, he said, would live on in centuries, and would eventually drive drunkenness and morphin off the face of the earth. The lecture itself was uninteresting, and at its close Dr. Talmage announced that he would ask Dr. Keeley a few questions that had been given to him by prominent clergymen and physicians. He read the questions from a slip of paper which he held over a hymn book. Here are some of them. *Q.* Now, Dr. Keeley, tell this assembled multitude if there are any poisons in your cure? *A.* There is nothing deleterious, inimical, or hurtful in my cure. A child could drink a barrel of it and it would not do any harm. *Q.* Does the temptation to strong drink pass away after a person has been through your treatment? *A.* A man never has any desire to drink again after being treated by me. My cure destroys all desire. If he goes back to drinking he does it deliberately, because he wants to lead the old life, and not because he has any desire for strong drink. *Q.* How many persons under God have you been permitted to cure? *A.* Something over 60,000. Of this number 95 per cent. have been permanently cured and only 5 per cent. have relapsed. Dr. Keeley went on to explain, in answer to further questions by Dr. Talmage, that no analysis had ever been made of his remedy. He said that he defied analysis, and that no chemist on earth could tell what it is. He had been experimenting for thirty years and could cure the opium or morphin habit just as easily as the drinking habit. He added that it was a mistake to call his cure the bichloride of gold. That name was given to it erroneously because of the gold clubs that had been organised throughout the country. He insisted that bichloride of gold is a chemical impossibility. 'What are your reasons for keeping your cure a secret?' 'It is a system. Drunkenness must be treated systematically. We could not hand it over to the doctors, because they would not handle it properly. I look upon my cure as belonging to the women and children of the country. If I gave out the formula the quacks would destroy it in a very short time. There are only three persons in the world who know the secret, and no one else will ever know it.'"

ALCOHOLISM.

In a case of inveterate alcoholism of more than twelve years' standing, during which time the patient took from a litre to a litre and a half of alcohol daily, M. Starck had recourse to hypodermic injections of strychnin. He injected 0·25 to 0·50 gramme daily, the quantity being given in four doses at intervals of three to four hours. The success of the treatment was complete, no alcoholic craving having returned.—*Les Nouveaux Remèdes*, No. 13.

PRICE OF QUININE.

In 1823 quinine cost £4 per oz.; in 1853, 12s.; in 1878, 15s. Now according to the *N. Y. Medical Record*, it can be bought for "18½ to 20 cents."

MINIMUS DIGITUS.

Mr. R. C. Lucas, in common with the comparative anatomists, says that the little toe has got to go. It is a useless little appendage, and almost as much out of date as the pineal gland. It has already lost one of its extensor tendons. We are further told that the second and third phalanges of the little toe are, after a certain period of life, commonly found ankylosed, which is a further proof of the downward descent of this appendage. The future of the human foot would appear to be a gradual suppression from without inward of the toes, and a further strengthening of the great toe line on the inner side. That this is all that is required is abundantly proved by observing the thousands who, even at the present time, use only the great toe as a means of progression. "I was," Mr. Lucas states, "much interested some few years ago by observing the foot of one of the finest athletes of the day. He was an All-England three-quarter at football, a champion short- or mid-distance runner, and the finest football kick of his day; yet he wore a boot so narrow that only the great toe could approach near to the end of it. All this brilliant performance was done by the great toe alone, and he showed on the running path and in the football field that swiftness, agility, and strength were, so far as the foot is concerned, centred in the line of the great toe." Mr. Lucas quotes the following clever poem, published in *Guy's Hospital Gazette*, and entitled "Digiti Minimi Decessus:"

"If thou must go, thou feeble, foolish digit,
  Fain would I speed thy slow degenerating way!
I daily feel a disagreeable fidget
  Whenever I've occasion to display
Thy doubtful outline and thy form chaotic
(Born of a taste in boots, perhaps erotic).
  Thou art a shock to my æsthetic sense,
  And offerest no kind of recompense
In way of use; of every function shorn,
Except to act as basis for a corn.
When thou art gone I'll still maintain my grace,
  Still walk erect wherever I may be;
Still I'll belong to the athletic race,
  Waltz with the fair, and kick my enemy!
So *pace* Schopenhauers, and *pace* Mallocks,
When I've acquired a hypertrophied hallux,
  To monodactyle type thus simplified,
  Life shall be simpler too, and so—beatified.

"When future science forgets thee in thy prime,
Methinks a great mind from a northern clime
May then discuss thy remnants, and declare
He finds a true *prophetic organ* there!"

—*N. Y. Medical Record.*

FOREIGN PHYSICIANS IN PENNSYLVANIA.

In 1890—the Report of the State Board of Health informs us—of 8,248 physicians practising in Pennsylvania, 641 (7·8 per cent.) were of foreign birth. Of these England contributed the largest number, 153; 131 were Germans, 100 Irish, 32 Scotchmen, 24 Welshmen; 1 was a Manxman. Canada contributed 58, France 19, Switzerland 14, Jerusalem 1, and Iceland 1. Of 7,316 graduates, 3,954 received their medical education in Philadelphia; 932 practitioners had no diplomas; 3·8 per cent. of the 8,248 were ladies, but in two counties of the State the percentage of lady doctors rose to 9.

GLANDERS.

Since Jenner introduced cow-pox vaccination a host of imitators have come forward, not one of whom has benefited humanity. Now, we learn from the *Médecine Moderne* that it is proposed by M. Talamon to employ cultures of the glanders bacilli to counteract the disease. He says that these glycerine cultures possess, like Koch's "cure," an elective affinity for the diseased tissue, and that the culture fluid is useful both as a preventive and a diagnostic agent. We think, however, that the medical profession and the public have had enough of "culture fluids" for some time.

HINTS TO PREVENT THE SPREAD OF CONSUMPTION.

The following "Hints," drawn up by an able physician, practising at Davos, are as widely as possible circulated at that high-level Alpine health-resort:—"All cases of tubercular disease of the lungs ('consumption') take origin directly or indirectly from other cases. This is now an established fact. Infection, however, is easily provided against if certain simple precautions are taken. The chief modes of infection are—(1) By inhaling dried and pulverised expectoration. This is apt to occur when an ordinary pocket-handkerchief is used by a tubercular person for expectoration. When such a handkerchief is opened the dried expectoration is likely to be pulverised and diffused through the air. Thus it may be inhaled by others as well as by the patient himself, who is likely to suffer from drawing disease germs into portions of lung previously unaffected. Another source of pulverised expectoration is the habit of spitting on the ground. The expectoration becomes mixed with dust, and then is easily carried into the air. This habit, therefore, is not merely offensive but dangerous. (2) By using spoons, cups, and other articles of the kind, which have not been properly washed after having been used by tubercular persons. (3) By kissing. This source of infection is especially to be guarded against in the case of children. Self-infection may occur, in addition to the ways mentioned, by swallowing the expectoration. This habit is likely to lead sooner or later to infection of the intestines with tubercular disease. Knowing the channels of infection we can easily take effective precautions. The sputum must be destroyed and must not be allowed to become dry. A spitting cup or flask containing just enough disinfectant solution to cover the bottom of the vessel should always be used for the expectoration. Out of doors a pocket spitting flask, such as Dettweiler's, should be employed. Pieces of linen or calico about ten inches square may also be carried. These should be used only in case of absolute necessity, and should be burnt as soon as possible afterwards. No piece should be used more than once. Bedrooms that have been occupied by tubercular patients should be thoroughly disinfected before they are occupied by other persons, and a declaration or assurance on the point should always be demanded. If the previous occupant of the room never allowed the furniture, hangings, or carpets of the room to be contaminated with the sputum, there would be little need for this precaution. But as people, ordinarily of cleanly personal habits, sometimes show a surprising amount of ignorance or carelessness in this respect, the following points should be insisted on:—(1) Carpets, curtains, and bed-coverings should have been exposed to superheated steam under high pressure. (2) The floor and walls of the room should have been properly disinfected. (Rubbing with new bread, followed by the application of corrosive sublimate solution, is probably the most effective practical method.) There is no danger of infection from the breath of a tubercular patient. The sole danger of social intercourse arises from neglect of the precautions described. Fresh air is of the highest importance for tubercular persons. Hot and stuffy rooms have an evil influence over the disease. Except in special circumstances the bedroom window should be kept open by night as well as by day.

MEDICAL COLLEGES IN U.S.

THE *Medical Age* has compiled from the Report of the Commissioners of Education for 1888–89 the following table, showing the number and classification of the Medical Colleges of the United States :—

	Number of Schools	Professors and Instructors	Students	No. of Graduates at Commencement of 1889	Amount of State or municipal aid received within a year	Benefactions
Regular - -	92	1,907	12,838	3,296	$24,820	$87.139
Eclectic - -	9	116	669	186	—	5,200
Homœopathic -	14	249	1,159	312	25,000	16,004
Physio-medical -	1	11	15	5	—	200
Post-Graduate -	7	261	909	25	—	19,600

COD-LIVER OIL.

The following formula for cod-liver oil emulsion appears in the *Am. Jour. Phar.*, March, 1892 :—Glycerine, 3 parts; cod-liver oil, 6 parts. Make an emulsion by gradually adding the oil to the glycerine and rubbing the mixture. To this add a strong solution of extract of liquorice.

CYSTITIS.

THE following prescription is recommended by M. Rosenthal in cystitis :—Solution of boric acid, 2 or 3 per cent.; syrup of orange peel a sufficiency to flavour the solution. One teaspoonful in a glass of sugared water.—*Les Nouveaux Remèdes*, No. 12.

CYCLING.

M. LE DOCTEUR TISSIE (de Bordeaux) has been making a study of the effects of cycling, and he arrives at the conclusion that the exercise increases the vital capacity, is invaluable in chlorosis and scrofula, increases the activity of the digestive processes, and is to be recommended for gout, rheumatism, and obesity.—*L'Union Médicale*, No. 71.

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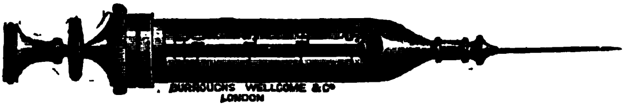

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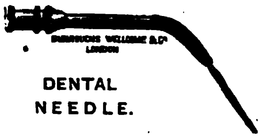

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THE DUBLIN JOURNAL
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FEBRUARY 1, 1893.

PART I.

ORIGINAL COMMUNICATIONS.

ART. V.—*The Treatment of Volvulus of the Sigmoid.* By J. S. M'ARDLE, F.R.C.S.I.

THERE still exist in the mind of many surgeons grave doubts as to the advisableness of operative interference in cases of acute intestinal obstruction. The relation of a case like the following would not require or deserve consideration were it otherwise. Were there a hard and fast or even any well-established general rule in regard to such cases, the bringing forward of this question would be wasting the time of the Professoin. But when the names arrayed in support of entirely opposite views in reference to this matter are considered, it is evident that the mind of the Profession is unsettled as to the merits or demerits of vigorous operative treatment. I am therefore emboldened by this want of unanimity to bring forward the following notes in support of the views I hold (and to which I shall allude later), in reference to all intestinal lesions or derangements causing acute obstruction.

CASE.—On July 22nd, 1891, I saw, in consultation with Drs. Cruise and Kennedy, Miss T., aged twenty-two years, a well-nourished and well-developed lady. She had been suffering from the evening of the 19th of July with colicy pains of a paroxysmal nature. They commenced in the left side at the spot marked A, Fig. 1, and were at first gnawing in character, recurring at intervals of ten minutes, and they were relieved by pressure.

Under treatment some relief was obtained, and washing out of the lower bowel with a short rectal tube had caused a temporary cessation of the trouble. The long tube passed only eight inches. Later on the pain was referred to the umbilicus and area shaded at B in this figure. From being evenly distended, the abdomen now became flattened in the left, as marked with crosses, while the dotted area became the site of a very marked prominence. Here there was great tension and a well-defined area of resonance, the greater part of the abdomen being dull on percussion. From the beginning there was obstinate constipation. These symptoms and signs convinced me that volvulus was present, and I recommended the removal of the patient from her home to 74 Lower Leeson-street, where, at 6 p.m. on the 22nd of July, I performed the following operation, Dr. Kennedy administering chloroform, my colleague, Dr. Patteson, and my friend and former pupil, Dr. Garrett Hickey, assisting me:—

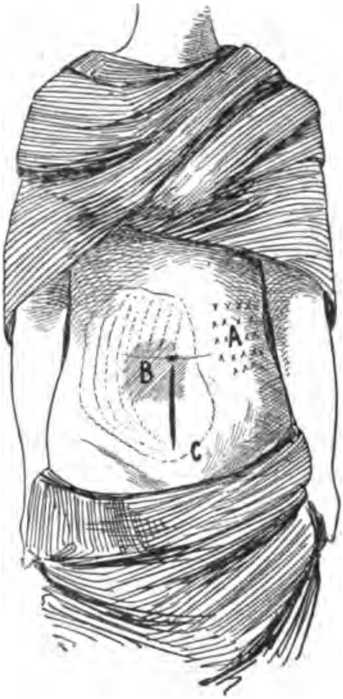

Fig. 1.

Operation.—I made a vertical incision, two and a half inches in length, half way between the umbilicus and pubes. The fingers inserted towards left side detected tense ridge of mesocolon and twist of intestine. The region around and to right of umbilicus was occupied by coils of intestines distended with gas and containing masses of fæces. The small intestines crowded the pelvis, and turned over the edge of twisted colon into left iliac region. I gradually drew out the displaced coil of colon, and found that the descending and sigmoid parts were the ones implicated, the latter being dark purple in colour and covered with flakes of adherent lymph. The upper part, as in Fig. 2, A, was enlarged. The sigmoid B was at least six times the normal size with thickened walls. The longitudinal fibres were very strong and projected from the bowel surface. The gut looked in anything but a promising condition, and was distended almost to bursting.

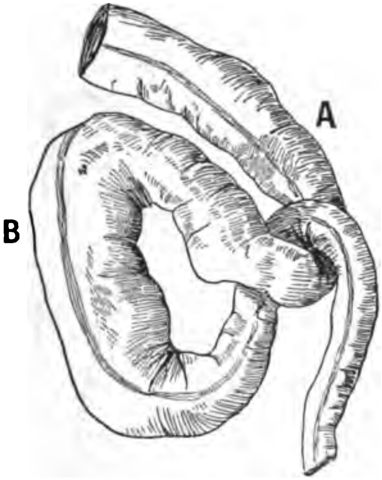

Fig. 2.

To prevent this I passed a hypodermic needle into the bowel, but to no purpose. Manipulation now became impossible owing to the great extent of intestine exposed and its extreme distension; so, selecting the most enlarged and healthy-looking part of the sigmoid, I made an incision one and a half inches along the strong linear fibres above referred to, opening freely into the lumen of the tube. An immense volume of gas escaped and some fæces. A retractor passed into incision enabled me to evacuate a large quantity of dark semifluid and extremely fœtid fæces. I now inserted a glass tube from an irrigator, and washed out with warm water keeping all the time the extruded viscera wrapped carefully in towels wrung out of very hot dilute carbolic solution. When the loop was emptied and washed, it was untwisted with difficulty, and we found the mesocolon dark, rough, and fibrous, and oozing blood and serum. I placed a sponge on each side of the membrane to collect the discharge, and keeping the bowel outside the abdomen, I passed an O'Beirne's tube through the rectum and well up into the affected loop. A stream of warm boric acid solution passed through this served to wash out the colon. Strong contraction was noticed in the intestinal wall while it was filled with fæces, and now and again we observed that, to allow the escape of the injected fluid, I was obliged to use retractors for the intestinal wound. On their withdrawal the wound in the sigmoid closed completely and nothing could escape, so firmly did the longitudinal fibres approximate the edges. Thoroughly cleansing the great mass of protruded intestine with warm boric acid solution, I gradually replaced them with the exception of the incised portion, which I sutured in the following way (Fig. 3). Inverting the mucous membrane, I passed a catgut (Schnurnaht) purse-string suture round the submucous tissue (A), which when drawn upon fixed the inversion (B). Then I applied fine gut to edge of serous membrane and muscular coat (Fig. 4, B), while a Lembert suture of silk (C) completed the closure of the bowel wound. Washing with warm boric acid solution, introducing warm sponges to loins and Douglas' pouch, completed the operation as regards the colon, which was certainly the largest I have ever seen—it was so large, indeed, that until the longtitudinal bands, strongly marked as they were, appeared, it looked like an immense stomach. The sponges which I had applied to the mesocolon were saturated with blood and serum, but oozing from that membrane had ceased by the time we had completed the suturing of the bowel. The other sponges came away

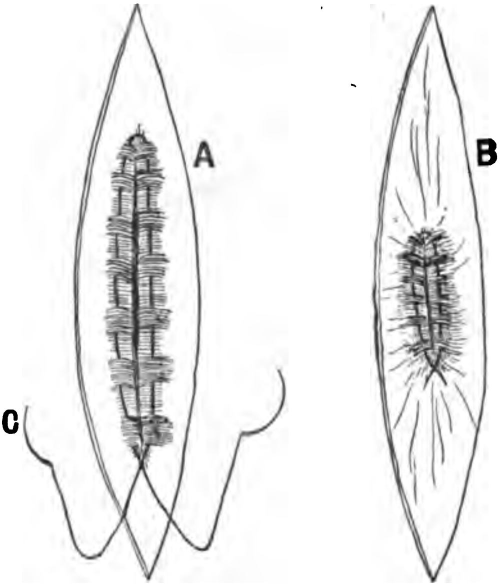

Fig. 3.

unstained, so that without further delay I was enabled to replace the bowel and close the abdominal wound. I avoided attempting any shortening of the mesocolon, which, I think, would be useful in such cases. This I did owing to a condition well shown in Fig. 5. The serous layers of that structure were separated in an extraordinary way, making a swelling along the concavity of the bowel almost as large as itself. Evidently the twist allowed free entrance of arterial blood; the veins and lymphatics were obstructed, thus causing the œdema described. A stitching up of the membrane so as to shorten it would, I think, prevent the absorption of the material effused, and possibly lead to other mischief, to which I shall call attention hereafter.

The patient made an uninterrupted recovery, and was able to walk two miles without distress in one month after operation. She was married in the seventh week after the laparotomy, and now, over two years after, she continues perfectly healthy.

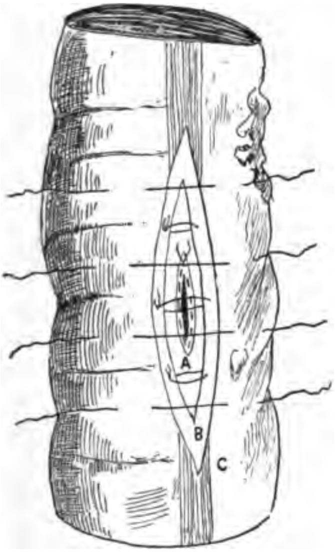

Fig. 4.

The points noted in this case are:—

1. The very great hypertrophy of the walls of the descending and sigmoid portions of the colon.

2. The dilatation of this portion of intestine to the size mentioned.

3. The almost gangrenous condition of the parts involved.

4. The solid œdema of the mesocolon, its transverse depth being at least two and a half inches.

5. Rapid return of circulation after emptying the bowel and untwisting.
6. During washing out of the bowel, on the removal of the retractors the flow ceased owing to contraction of the longitudinal fibres in which the incision lay.
7. Once the bowel was drawn through wound, a long tube could be readily passed into colon, although every attempt at introduction was fruitless prior to this event.
8. The flattening of the side referred to was found, as I expected, to correspond to the site of the costocolic omentum dragged to the right.

The case which I have briefly sketched interested me very much, and led me to perform laparotomy for intestinal obstruction in several cases since, but as it was the most severe and important I have thought it worthy of record. It illustrates the truth of the statement made by Greig Smith, "that no case of volvulus, whether of the large or small intestine, has as yet been known to recover under treatment purely medicinal." We see this by the difficulty I experienced in undoing the twist, even after the evacuation of the bowel. The procedure demanded time and trouble, and nothing would convince me that spontaneous cure could by any possibility occur in this case. It also shows how little aid one can expect from the procedure recommended by Madelung—viz., "washing out the stomach." The irritation occasioned by the passing of the tube, and the delay occasioned by a thorough irrigation (which is useful in chronic obstruction), are contra-indications well worthy of consideration, and I am inclined to agree with Rydygier in vigorously opposing delay when the diagnosis is certain; or being uncertain, the patient is exhausted from the agonising paroxysmal pains so characteristic of acute obstruction.

I oppose the delay, notwithstanding the fact that I have often witnessed the advantages arising from its adoption, as pointed out by L. Rehn and Madelung. The washing out of the stomach is useful in two ways—it lessens abdominal tension and relieves the intestinal tract of the products of decomposition. Cohnheim has shown that, where obstruction has lasted long enough to produce stercoraceous vomiting, the material of fæcal character is derived from the decomposing contents of the small intestine. The removal of this and the gas affords great relief, and often prevents impending collapse, but I would much prefer to irrigate the lower bowel after relieving the obstruction. Schede says that 50 per cent. recover without operation, and that he would confine laparotomy to cases in which early collapse occurs. Steltgner, on the other hand, recommends early operative interference, and Credé believes that operation should be carried out when colicy pains become very severe, while Billroth says: "Bearing in mind the striking results of ovariotomy, I think we ought undoubtedly decide on laparotomy more frequently in these cases."

To stand by, as recommended by Mikulicz, until collapse supervenes would, in my estimation, be most unwarrantable conduct, and the statement by Gee (*Lancet*, Nov., 1892), "You will agree with me when I say that operations of this kind have seldom any other effect than to hasten the patient's end," can hardly be regarded as a faithful picture of nineteenth-century surgery, which, I believe, is more honestly and intelligently pourtrayed in the following statement by Edmund Owen: "The more I see of abdominal surgery, the more am I satisfied of this, that in an obscure case the only way for the surgeon to assure himself of what is wrong is by means of transperitoneal touch or sight. To stand at the bedside and take part in a speculation as to what is wrong, and to wait for the necropsy for positive information, is not surgery" (*Lancet*, Oct. 22, 1892). Czerny prefers enterostomy to the more complete operation. In my case, however, this procedure would only have relieved the distension. The overloaded sigmoid could not uncoil, and gangrene would certainly have occurred. The points to which I desire to call attention are—

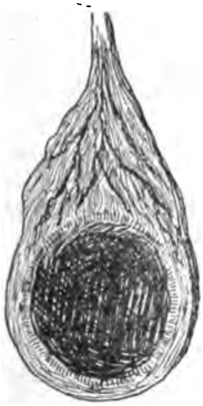

Fig. 5.

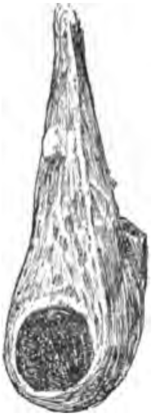

Fig. 6.

1st. The presence of peritonitis.
2nd. The œdema of the mesocolon; and
3rd. The method of emptying the bowel.

Peritonitis.—To say, as some do, that peritonitis contraindicates laparotomy is, to my mind, the greatest fallacy. How many of our serious cases—uterine, ovarian, or intestinal—are conducted before the onset of peritonitis? Few, indeed, if my experience teaches anything. Truc (*Trait. de Chirurgie de la Perit.*, 1886) says that in such cases peritonitis is an absolute indication for laparotomy; and as pointed out by Bouilly (*Congrès français de la Chirurgie*, 1889), a glass tube mounted on an irrigator and carried into Douglas' pouch, the iliac fossæ, and the loins with warm 1–4000 corrosive sublimate solution, will often prevent death from peritonitis of intestinal origin.

Œdema of Mesentery.—I think the curious condition above noticed—that is, the separation of the layers of mesocolon by dense exudation material, explains the manner of development of those fatty and sometimes semigelatinous masses met with in chronic obstructions of the mesenteric veins and lymphatics. Fig. 5 shows the appearance caused by the great œdema, and one can understand the lymph becoming organised and then fatty or other transformations occurring, so as to produce a condition such as we see in the specimen exhibited, and shown in Fig. 6.

This specimen also shows a perforation of the bowel at its attached border, and I fancy the interperitoneal exudation is accountable for the còndition depicted in Fig. 7, owing to the

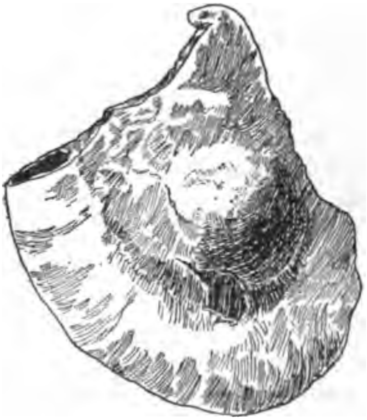

Fig. 7.

cutting off the blood supply just as the vessels were becoming small to enter the bowel wall.

Emptying the Bowel.—In reference to the method of relieving tension, Dr. O. Rosenbach (*Berl. klin. Woch.*, 1889, No. 19) advises puncture through abdominal wall, but admits (and I agree with him) that against its adoption the following arguments may be used:—1st. It is dangerous, owing to escape of gas or fæces into peritoneum. 2nd. It does not accomplish enough. 3rd. Laparotomy must often be substituted for it.

Treves (390) says that the bowel should be tapped and emptied. Now I believe that it is more difficult to secure a puncture of the bowel than an incision, and the advantage of a free opening of the bowel must be apparent. Senn says evacuation of intestinal contents by a free incision should be practised in every case when general distension of the intestines is present, and recurrences should be prevented by shortening the mesentery by folding it upon itself. Smith (448) says: "To open the bowel it is best to make an incision transversely to its axis." This I believe to be true only of the small intestine. As I have shown in my case, linear incision in the fibres running opposite the mesentery has many advantages. My reason for incising in the course of the longitudinal fibres was that there would be less likelihood of yielding of the sutures during the subsequent action of the bowel, and I had proof of the truth of this conjecture when, in a few days after operation, a copious solid motion was voided without pain, and of course must have passed through the sigmoid. There is one comfort in laparotomy for volvulus of the sigmoid, and that is the readiness with which you reach the affected portion of the bowel, as it usually occupies a position behind the line of incision, having forced the small intestine backwards and downwards against the spine and into the pelvis. Once a deeply-reddened or greatly-distended coil is reached, it should be allowed to protrude well outside the abdomen. If the twist can be undone then a long tube passed through the rectum will secure a thorough emptying of the sigmoid. Whatever doubt existed in my mind as to the feasibility of passing the long tube into the sigmoid was dispelled when I found how readily I passed it in this case into and for a long way upwards in the intestine. I may be pardoned a digression here, as the point to which I desire to refer shows the superiority of the long tube over the short one in cases of sigmoid obstruction from twist or impaction. Within the past few months

I have had to deal with four cases of acute obstruction due to sigmoid disease. Two of these are of interest; one occurred in a robust man, forty-two years old. He had first left side pain of a gnawing character, intermittent, and relieved by pressure. Soon the pain became severe and referred to the umbilicus. It was paroxysmal, a few minutes only elapsing between the attacks. Before I was called to see him in consultation with his usual medical attendant, he was almost frantic with this pain, and now tenderness to left of umbilicus and vomiting of bilious fluid set in. He was the picture of distress when I examined him, and in addition to the above symptoms I found, on digital exploration of the rectum, that the small intestines were crushed down into the pelvis. Looking on the case as one of overloading of the sigmoid, and seeing that enemata administered with a tube 6 inches long were ineffectual, a long tube was passed until the point was felt in the right suprapubic region. A quart of soap and water, with 2 oz. of castor oil, was now introduced, and the patient kept on the left side, with the buttocks well raised. Soon colicy pains were felt all over the lower abdomen, and a discharge of extremely fœtid gas took place, after which a copious evacuation of fæces occurred, great masses of black, hard matter coming away. Recovery was complete. The other case contrasted with this; the patient suffered from left inguinal hernia, which, however, never troubled him much. After a long day standing about, the protrusion became large and difficult of reduction, but some hours after lying down the bowel passed into the abdomen For some days before this man had had no motion from the bowel, and in the hope of relieving the patient enemata were given with a short tube. At first they returned stained with fæces, then they came back just as they were introduced, until, on the 3rd day after the onset of obstruction, over a quart of fluid introduced did not return. Vomiting had set in on the night of the second day, and continued until I saw him on the evening of the fourth. He was then in a state of collapse, the rectum was empty and dry, the small intestines were jammed down into the pelvis and very tense, the pulse very quick and feeble, and the skin cold and clammy. After my examination concluded, for the purpose of determining whether laparotomy was necessary or advisable, three quarts of most offensive matter were discharged from the bowel, but alas! too late—a septic peritonitis caused death in a few hours after the obstruction had been relieved. The long tube used here early would probably have relieved the obstruction before peritonitis set in, and should it be found impossible to introduce the tube otherwise, a 2-inch incision in the abdominal wall would allow the passage of the fingers into the abdomen, and they would guide the rectal tube into the sigmoid and allow a thorough washing of the bowel. Such evacuation can readily be conducted. What really happened here was—all the enemata before the last simply washed out the rectum; the last overcame the obstruction, due to a falling over of the greatly loaded sigmoid, but the patient was too far gone to be benefited by the result. The dilated and now almost powerless bowel discharged when change of position occurred, and gave free exit to the contents. In these cases the tide of symptoms ebb and flow—at one time ease, at another pain, but with each recurring attack of colic or retching the patient is less able to bear the distressing effects. Now, delay in relieving such cases is very grave; every moment renders less certain the result of operative interference. There comes a time of deceptive quiet which is only the lull before the storm. In this lull friends see every promise of returning health; the experienced surgeon sees only cause for regret that he had not sooner an opportunity of coming to the relief of overpowered nature.

The remarks which I think should conclude this paper are—1st. That I have never yet witnessed an instance of death from exploratory laparotomy. 2nd. That I can recall numerous instances of most gratifying results following its adoption And 3rd. That I have been an unwilling witness of the havoc worked in the absence of that pluck and determination required to insist on its performance.

Art. VI.—*Report on the Abdominal Sections performed in the Gynæcological Wards of St. Vincent's Hospital, Dublin.*[a] By Alfred J. Smith, Ex-Assistant Master, Rotunda Hospital; Examiner in Midwifery, Royal University; Professor of Midwifery, C.U.I.

I have the honour of bringing under notice a Report on the abdominal sections performed by me in the gynæcological wards of St. Vincent's Hospital since my appointment as gynæcologist.

I performed abdominal sections during the six months in seven cases as follows:—

---

[a] Read before the Obstetrical Section of the Royal Academy of Medicine in Ireland, on Friday, December 23, 1892. [For discussion on this paper, see page 151.]

Table of Abdominal Sections.

No.	Sent by	Name	Age	Married or unmarried	Date of operation	Nature of tumour	Peritoneum		Remarks	Stitches removed	Union	Result
							Flushed	Drained				
1	—	A. A.	46	M.	April 6, 1891	Unilocular ovarian tumour	Flushed	Not	Several fresh adhesions easily separated	April 14	Good	Recovery
2	—	M.M'D.	50	M.	May 19, 1891	Unilocular ovarian tumour	Not	Not	No complications	May 27	Good	Recovery
3	Dr. Garry, Liverpool	S. B.	22	Unmarried	Oct. 21, 1891	Dermoid cyst in right broad ligament	Flushed	Drained	Cyst was gaseous; was adherent to middle 3rd of the rectum; it burst during removal.	Some on Oct. 29th, 1891	Good	Recovery
4	—	M. G.,	24	M.	Oct. 11, 1892	Hydrops follicularis of right ovary	Not	Not	No complications	Oct. 19	Good	Recovery
5	Dr. Kelly, Eyrecourt, Galway	N. C.	39	M.	Nov. 2, 1892	Large dermoid cyst showing teeth	Not	Drained	No adhesion; contents of cyst spilled into abdomen	Nov. 10	Good	Recovery
6	—	M. R.	20	Unmarried	Nov. 4, 1892	Multilocular ovarian tumour, size of 8th month pregnant uterus	Flushed	Drained	Both parietal and visceral layers of the peritoneum covered with villous growth. Contents spilled, and soiled peritoneum	Nov. 12	Good	Recovery
7	Dr. Cox, Dublin	T. S.	45	M.	Nov. 16, 1892	Parovarian cyst	Not	Not	Pedicle very long	Nov. 24	Good	Recovery

The Report in reality represents the work of six months, as I was prevented by an attack of illness, and subsequently by the usual summer vacation, during which the wards are closed, from devoting any longer time to the work of this department.

Thus, abdominal sections were performed twice for the removal of large unilocular ovarian tumours, twice for the removal of dermoid cysts, once to remove a multilocular ovarian tumour, once to remove a parovarian cyst, and once for the removal of hydrops follicularis of the right ovary—making in all seven cases with complete recovery.

In no case did the temperature reach 100° F.; in two instances—Cases No. 5 and No. 6—did the temperature reach 99·6° F. All the patients were able to be up on the 15th day after the operation except No. 3, who was not allowed up for six weeks. Most of the tumours have been already shown at this Section of the Academy, and the special points of interest were touched on; however, I hope I may be permitted to notice other points of interest in these cases now presented.

Case No. 2 developed a small hernia in the abdominal incision (3 in.), about the track of the second suture from the top. It is the size of a walnut, and first appeared about six weeks after the patient's return to the country. I ordered an abdominal belt; the hernia has not increased in size at the time of writing, and causes no discomfort; however, I have invited the patient to undergo an operation for its radical cure.

No. 3 presents many points of interest. The patient, a young girl, aged twenty-two, had enjoyed good health up to twelve months before admission, when one day, while lifting a gallon of water from a well, she was suddenly seized by pain in the lower part of the abdomen of so intense a character that it was necessary to carry her to bed, in a fainting condition. Inflammatory symptoms set in, accompanied by rigors and rise of temperature—the patient's condition was for a time critical; however, a discharge of pus by the rectum gave considerable relief, and it was hoped the case would clear up; at every motion of the bowels pus would come away—this continued up to three months before admission, when the discharge suddenly ceased; and with this cessation hectic symptoms of a marked character set in, and the patient's condition became pitiable. On admission she presented all the symptoms of chronic septic poisoning, even to the well-marked chloasma marks on the forehead and nose, the evening temperature reaching 103·5° F.

On examination under ether the uterus was felt pushed over to the left side of the pelvis and was tolerably movable, and an ill-defined elastic mass was felt to its right side of so indefinite a character that I had at first considerable difficulty in making a diagnosis; I thought it might be some curious intestinal displacement. This elastic mass, when pushed up out of the pelvis, gave a clear note on percussion; this added to my confusion; still I was positive as to the presence of a tumour, because the impulse of the outside hand was conveyed to the inside fingers, and *vice versâ*.

I determined to explore, kindly assisted by Mr. M'Ardle. On opening the abdomen a tumour presented itself, which was tympanitic on percussion. Having satisfied myself that it was not an intestine but a tumour in the right broad ligament, I tore with my finger nail through the layer of broad ligament until I came to the wall of the tumour; the tumour shelled with great ease out of its bed, except for a slight adhesion to the middle third of the rectum; no pedicle was found. While enucleating an escape of fœtid gas from the tumour took place. I thought I opened into the rectum, but after the most careful search could find no fistula; as a precautionary measure I thoroughly disinfected the cavity in the broad ligament by swabbing it with cotton wadding soaked in weak corrosive sublimate solution, 1 in 5,000. I stitched the anterior layer of the broad ligament to the abdominal wall so as to cut off the peritoneum from the danger of infection, then flushed with hot water, put in a Keith's drainage-tube, and packed with iodoform gauze. I saw the case in a few hours; the dressing was soaked to a considerable extent with a watery discharge. I left the drainage-tube in all night, and next morning I was astonished to find the entire dressing soaked with a strong-smelling fæca discharge, and I recognised that a fæcal fistula had formed. I will not go into the details of the many dressings, the constant irrigations, the change of the glass drainage-tube for one of rubber, and still no improvement; the odour was so offensive from constant eructation of gas it was obviously retarding the patient's recovery. I determined on draining and irrigating the patient's rectum. With this end I forcibly dilated the rectum, introduced a glass drainage-tube, which was kept in position, and thus the rectum could be constantly irrigated. The immediate result was most gratifying, the offensive smell almost disappeared, and the discharge through the fistula became greatly diminished and gradually less and less, until it finally disappeared. The patient was dismissed December 22nd, 1891, a little over two months after the operation, with a small sinus; this has now completely healed up. [I take this opportunity of thanking you, Mr. President, for your kind attention to this patient during my illness.] This case, I think, shows that fistula of the middle portion of the rectum will close by granulation, and that the secret of success is the proper management of the bowels. Keep the rectum well drained, free from gas, and well irrigated.

In Case No. 4 I operated by elevating the pelvis on Trendelenburg's table. The patient complained of great pelvic pain the evening after the operation; it continued all night, the patient calling out for its relief; $\frac{1}{3}$ gr. morphin was given hypodermically with only temporary benefit, as the pains returned directly the morphin had lost its effect; the temperature and pulse remained normal. A discharge of blood from the uterus ensued, and then the pains disappeared; the discharge continued for two days, six napkins being required. Against this hæmorrhage I employed no treatment, as I considered it to be due to the sudden change of pressure in the blood-vessels of the uterus, brought about by the operation.

Case No. 6 was remarkable for the alarming high rate of the pulse—120 per minute; this rate was maintained all during the convalescence; and when the temperature rose on the third day to 99·6° F. I felt anxious; the quiet, contented expression of the patient, however, reassured me, and I was glad to have an opportunity of verifying the dictum of Mr. Lawson Tait, that the expression of the face is often of more importance in prognosis than either the temperature or the pulse.

Flushing the peritoneum with large quantities of hot water was employed in only three cases; it was not necessary in Cases No. 2, No. 4, and No. 7, as the peritoneum was not damaged or soiled in any way. I would have considered its employment meddlesome and unnecessary. In Case No. 5, although the peritoneum was slightly soiled by the spilling of the contents of the dermoid cyst, I did not flush, as my experience hitherto was that hot water seemed to have little or no effect in dislodging the greasy sebaceous material found in dermoid cysts. I cleansed as well as I could with cotton wadding moistened in a corrosive sublimate solution, 1 in 5,000. As a rule, I avoid sponging, the excess of fluid after flushing being removed by aspiration.

Drainage by Keith's glass tube was employed in Cases 3, 5, and 6. A strip of iodoform gauze was passed down the lumen of the tube to assist in draining by capillary attraction. In all cases where the drainage-tube was used I placed the patient in the permanent side position, the old position on the back being, to my mind, opposed to gravitation. The side position I found most satisfactory, as nothing could be aspirated from the drainage-tube when the dressing was changed—all discharge had come away. To prevent granulation growing into the perforations at the end of the tube, I simply rotated the tube through half a circle each time the case was dressed.

In Case No. 6 it was necessary to keep the drainage-tube in for three days, as the discharge was so free. This free discharge ceased after the bowels moved. I close the abdominal incisions by interrupted silk sutures, the peritoneum being included in each suture. The dressing employed is very simple—a powder of equal parts of iodoform and boric acid is dusted over the wound, over this a small strip of oil silk, then a layer of absorbent cotton, with protective and gauze, all held in position by strips of rubber plaster, and over all a flannel binder.

The after-treatment consists of giving hot water in teaspoonful doses as often as the patient requires it for the first 48 hours, then milk and weak tea. I avoid giving morphin unless absolutely necessary; for flatulence I find that twenty drops of spirit of cajuput with twenty drops of aromatic spirit of ammonia in a little water is safe and efficient. Purgatives are given the third morning after operation. I generally order 5 grs. of calomel, but in one case in which I ordered mist. rosæ (the saline mixture of the hospital) in a one ounce dose, I was greatly satisfied with its quick action. When the bowels did not act I gave a turpentine enema. In Case No. 3, where the bowel was damaged, a purgative was not given until the 8th day. Except where drainage was employed, the dressing was not removed until the 8th day. Before removing the stitches I took the precaution of saturating their free ends with corrosive sublimate solution, 1 in 1,000. I had no irritation in the suture track in any one case. All incisions seemed to heal by first intention.

Antiseptics.—I superintended, assisted by the sister in charge of the ward, every detail myself. The silk is boiled for half an hour in ordinary Vartry water; it is then placed on glass spools and kept in a bath of corrosive sublimate solution, 1 in 1,000, until required for use. The blunt instruments are also boiled in Vartry water for one hour. I have given up the ordinary dry steriliser, as I considered it untrustworthy from the fact that bacteria and their spores, if exposed only to the influence of a dry heat, may lose their powers of development only in part. The cutting instruments are disinfected by absolute alcohol. No doubt boiling your instruments spoils them, but I prefer, for my part, the loss of my instruments to the loss of my patient.

The stages for rendering the hands aseptic are—1st. Trimming the finger nails. 2nd. Scrubbing for 3 minutes with a nail brush in a lather of carbolic soap and hot water. 3rd. Rinsing in carbolic solution, 1 in 100. 4th. Bathing in corrosive sublimate solution, 1 in 500, for one minute. If it be necessary to dry the hands, a dry corrosive sublimate towel is used.

The patient receives a hot soap and water bath the night before the operation. Immediately before operating, the abdomen is washed with ether and then sponged with a hot corrosive sublimate solution. All instruments are kept in hot carbolic solution, 1 in 100. The sponges used during the operation are thoroughly disinfected by soaking them in a weak solution of sulphurous acid and then are repeatedly washed in carbolic acid solution, 1 in 100. Dry corrosive sublimate towels are spread over the chest and thighs of the patient as a further protection against the danger of infection. The anæsthetic used is ether, and I must here acknowledge the thoroughly satisfactory way in which Dr. Marnell, House Physician, administered it.

It is to me a source of some regret that I have not a larger number of completed cases to bring forward, as from so small a number, even though uniformly successful, it is impossible to draw any conclusion or deduce any theory.

ART. VII.—*The Legal Duties of a Medical Practitioner.*[a] By HENRY O'NEILL, M.D., M.Ch.; Pathologist to the Belfast Royal Hospital, and Student of King's Inns, Dublin.

LEGAL or State Medicine or Medical Jurisprudence is the science which teaches the application of every branch of medical knowledge to the purposes of the law. This necessarily implies that a medical jurist should have a thorough knowledge of all branches of his profession. He must be able to understand difficult medico-legal questions, and be prepared to make a wise selection of medical facts, and apply medical principles so as to enable a judge and jury to grasp the details of the case before them, and arrive at a just verdict. His first duty is to cultivate a faculty of minute observation, combined with a general knowledge of the Law of Evidence, which will enable him to answer the various scientific questions required for the proper understanding of the case. A judge once remarked, "A medical man that sees a dead body should notice everything." The medico-legal cases which are tried in our law courts are intimately connected with the practice of the medical profession. Before any inquiry is commenced by a magistrate or coroner a medical man may be sent for to see a person dying from the effects of an injury received, or from the secret administration of poison. This person may make to him a statement with reference to the circumstances under which the injury was received, or the poison administered. He may also name a person or persons concerned in the matter, and his dying statement may become of much importance in the indictment of the person or persons concerned, who may be charged with murder or manslaughter. The doctor who sees a person should observe and take notes of the exact state of the patient, and whether, when he makes his statement, he is or is not under the conviction that he is about to die. The law admits such a statement, because the person making it has in his mind at the time of making it a full conviction of approaching death. This belief is considered in law to be equivalent to the obligation of an oath. When a person dies from the effects of an injury received, or from poison taken. the first proceedings connected with the inquiry take place in the Coroner's Court, and the medical gentleman who last attended the person before death is generally called on to make a medical examination of the dead body. He should note—first, the exact time of death (if known); secondly, the position and state of the body and its clothing and surrounding objects. Any vomited matters near the dead body should be collected.

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[a] An Address delivered before the Belfast Medical Students' Association at the Queen's College, Belfast.

Post-mortem Examinations.—In making a *post-mortem* examination of the body certain rules should be strictly observed:—Firstly, the appearance of the body should be noted, whether the surface is pale or livid; secondly, all marks of violence on the person, discomposure of the dress, and marks of blood should be noted; thirdly, the exact constitution, size, form, shape, depth, and direction of all wounds should be carefully noted; next, the presence or absence of warmth in the body, then the presence of cadaveric rigidity in any part of the body. If the person is found dead, note when the deceased was last seen living, and next how soon after death the examination is made. He should observe then carefully the state of all the organs and parts of the body, and also write down with pen and ink, and at the time of the examination, a record of all the facts he has observed.

Identity of Matters vomited and Contents of various Organs.—In cases where poisoning has been suspected, the stomach and abdominal viscera should be removed from the body, and placed in a clean vessel, firmly secured and sealed, and properly labelled. This vessel should be given to a policeman, who may send the contents to the Government Analyst for further examination.

Medico-legal Reports.—The report of the result of a *post-mortem* examination should consist—first, of a statement of the symptoms of the persons suffering before death (if known); secondly, the appearance observed after death; thirdly, the chemical analysis of the various parts of the body affected; and, lastly, the conclusion arrived at should be reserved until the end of the report. The language used should be precise and clear, so that the judgment of the coroner, the magistrate, or the judge and jury, may be based upon a truthful record. The conclusions, too, should be based only upon medical facts which the examiner has himself observed.

The Coroner's Court.—The Coroner's Court, by law established, is the only tribunal for inquiring into and determining the cause of death in cases of suspected violence. The 4th Edward I., Statute 2, under which coroners act, directs that upon information they shall go to the place where any be slain or suddenly dead, and make due inquiry as to the cause, &c., before a jury selected from persons living in the neighbourhood. The information upon which the coroner generally acts consists of—first, notice from a parish officer or policeman of any death from sudden or supposed unusual cause; secondly, notice from the medical gentleman who may have attended the deceased; thirdly, from the registrar of deaths, that no cause of death has been assigned in the particular case in question, or that there has been a rapid death after a short illness, or no medical attendance. Under the present system the coroner is empowered by "The Medical Witnesses' Act," 6 & 7 Wm. IV., chap. 89, to issue an order for the attendance of any legally qualified medical practitioner being at the time in medical practice in the place where the death has happened. A fee of two guineas is the maximal amount for holding a *post-mortem* examination, and, if considered necessary by the jury, a chemical analysis of the stomach and intestines. The doctor should receive a summons signed by the coroner before attending, and an order to make a *post-mortem* examination. A penalty of £5 is attached to disobedience of this order, except where reasonable cause is shown. Our Belfast Coroner's Court is presided over by Prof. Dill, M.D., whose kindness, gentleness, and uprightness are known to all, and who, we hope, may long be spared to preside over the court which he has so long conducted with such skill and dignity.

Other Courts.—The next stage where the medical witness is required is at the Petty Sessions Court, where he is commanded to be present on summons, and after that he may proceed to the Recorder's Court, the Court of Quarter Sessions, or an Assize Court—in the latter case by a *subpœna* (a writ commanding the attendance in Court of the person on whom it is served, under a penalty in case of disobedience). In the Assize Courts he is subjected to what is termed "direct" examination by the prosecuting counsel, and afterwards to cross-examination on behalf of the defence. He may be summoned also to the Supreme Courts of Judicature, for the purpose of giving evidence in lunacy matters, claims for personal injuries caused through railway accidents, &c., and in matrimonial and divorce cases.

Rules for the Delivery of Evidence.—In the delivery of evidence, all questions put to the medical witness should receive direct, concise, distinct, and audible answers, in simple language, free from technicalities, and he may give his opinion if required.

As a general advice to you, gentlemen, in all these matters be true, act truly, and speak the truth in love.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS—ROME, 1893.

THE Executive Committee of the Eleventh International Congress of Medicine, which will be inaugurated in Rome on the 24th of September, 1893, have been asked by many *pharmaciens* if they are eligible to take part in the work of the Congress. We have been informed by the President that, in accordance with Articles 3 and 17 of the General Regulations, all *pharmaciens* may be inscribed as members of the Congress, and that a special Section of Pharmacology, directed by a Committee composed of the most distinguished Professors of Pharmacology, is also included in the Congress.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Reform in the Treatment of the Insane. By D. HACK TUKE, M.D., LL.D. London: J. & A. Churchill. 1892. Pp. 96.

IN this little *brochure* Dr. Hack Tuke publishes the Address which he delivered on the occasion of the first celebration, on the 6th May last, of the centenary of the founding of the York Retreat. This famous institution, the pioneer of modern asylums, owed its origin to the humanity and philanthropic spirit of William Tuke, an ancestor of him who is now the *doyen* of psychological literature in these countries. The preparation and delivery of this Address was, we doubt not, a labour of love to Dr. Tuke; and it must have been gratifying to him to find himself surrounded by members of the same family, descendants of the founder, assembled, with so many others deeply interested in the welfare of the institution, to celebrate its centenary. Time has been hurrying on since William Tuke first endeavoured to ameliorate the sufferings and sorrows of unhappy victims to insanity within the homely walls of the York Retreat, and progress has been so rapid that the days of chains and of shackles are well-nigh forgotten, and the early struggles against, and prejudice in, the dawn of this great reform but dimly remembered. Dr. Tuke, in the biographical sketch of that portion of the life of William Tuke which was devoted to his efforts for the amelioration of the condition of the insane, has compiled a most interesting narrative of these early struggles and what their outcome was. "For long," he says in the preface to this little volume, "the issue trembled in the balance, but at last victory crowned unceasing labour." Shortly before the year 1792 it was that William Tuke, a worthy citizen of York, awoke to the realisation of the unhappy lot of the insane at that period, and, filled with deep sympathy for suffering humanity, he conceived and finally carried into execution the philanthropic design of erecting an institution where the experiment would be tried of treating the mentally afflicted on principles of kindness, and freedom from mechanical restraint, which was then foreign to the systems in vogue. The experiment was crowned with success, and William Tuke lived to see the new system thus inaugurated spread and take root, to develop in after-days into that full fruition which these closing years of the present century witness. Dr. Tuke has had exceptional sources of information in compiling his narrative, and he recalls the memories of those who raised and of those who carried on this model asylum with loving hand. From many lands and from foremost men came the graceful tributes of acknowledgment of the success which attended the efforts of those pioneers in a humanitarian movement. The published description of the Retreat inspired the mind of Conolly, while still a student at Edinburgh, with thoughts which led to the great work which has earned for him an honoured place on "Fame's Eternal Bead Roll," and the impressions produced on the minds of many visitors from other lands bore fruit in their subsequent treatment of the insane committed to their care. The work of the Retreat is to-day being carried on with all its old prestige, ever in the van of progress, and Dr. Tuke, while expressing congratulations on the vast advances made in the management of asylums since the days when the Retreat was in its infancy and youth, wisely writes as follows:—

> "There is such a thing as a true and genuinely humane movement against shameful abuses, while on the other hand there is a fussy intermeddling philanthropy, which is as different from the former as the true coin of the realm from the counterfeit. There have been occasions in later times when the pendulum of lunacy reform has swung a little too far, and mischief as well as good has unfortunately been done to the very classes for which such movements (sometimes originated by hysterical agitators) have been ostensibly and ostentatiously promulgated. These popular outcries, when ill-founded and, therefore, unjust, are calculated to have the effect of discrediting attempts at reforms when they are really necessary, as they were when the Retreat was instituted. But so it has ever been in the history of all philanthropic movements. There have been uncalled-for and feeble imitations of some great original work, and in the minds of too many people the one is mistaken for the other. A pseudo-humanitarianism has ended in mkaing lunacy legislation vexatious, and calculated to interfere with the prompt care and unfettered treatment of the insane by the asylum physician, whose thoughts are diverted

by such means from proper scientific work into that which, as General Sherman would have remarked, carries us back to the day when our mothers taught us the Book of Numbers."

The Medico-Psychological Association of Great Britain and Ireland, to emphasise the position which the York Retreat occupies as a landmark in the history of the development of the modern treatment of the insane, held its annual meeting there on the 21st of last July, under the Presidency of Dr. Baker, the Medical Superintendent of the Institution, and an account of the proceedings of that meeting—what was said and what was done, and the many letters of appreciation and respect received from foremost physicians on the Continent and America who were unable to be personally present—concludes this interesting little book, which will preserve in permanent record the birth and progress towards development of an institution which was to be a type of its kind, and the management of which deserves well of all who are actuated with sympathy for their suffering fellow-mortals.

Les Microbes Pathogènes. Par CH. BOUCHARD, Membre de l'Institut de la Académie des Sciences, Professeur à la Faculté de Médecine de Paris. Paris: J. B. Baillière et fils. 1892. Pp. 304.

SINCE a criticism of Professor Bouchard's work is almost impossible save at the hands of a profound bacteriologist, with the results of numerous controlled experiments on man and animals, our short notice of this remarkable book will merely point to some of its more interesting contents. In it we have the focus from the triple lens of bacteriological, pathological, and clinical research, and, excelling in all these, the Professor has given us a volume of intense interest on the burning question of the day, which should be universally studied.

In his "Essay on the Theory of Infection" (Chap. I.) he graphically describes how the animal organism overcomes the invasion of microbes by means of—(1) *Phagocytism*, a dynamic, vital, and cellular condition; and (2) "*The bactericide State*," a chemical or static principle which produces acquired immunity, vaccination, and recovery. Phagocytosis begins the attack, and by a chemical change in the medium the bacteria lose their protective "antidiapedetic" secretion, and hence succumb to the animal cells, "l'état bactéricide" being now permanently established, and the animal rendered immune for the future.

Microbes are (1) pathogenic when they possess a secretion which arrests diapedesis, and consequently phagocytosis, and (2) non-pathogenic when they are deprived of this.

Phagocytosis is—(1) Normal, when accomplished by the lymphatic cells in the skin; and (2) Pathological, when resulting from the action of the white blood-cells in the depth of the tissues; and whether the one or the other is the essence of the time-honoured "vis medicatrix naturæ" preservative or curative.

Conversely, it is accepted that microbes act on animal organisms by the materials which they secrete: some—diastases and ptomaïns—*producing* diapedesis and local irritation, others *preventing* diapedesis, and hence leading, without opposition, to general infection of the organism.

Some interesting researches on cholera occupy Chapter III. The doctrines of R. Koch, accepted at the present day—

(1.) That cholera is an infectious disease due to the comma-bacillus;
(2.) That the intestine is its exclusive habitat;
(3.) That since it neither penetrates the blood, lymph, or tissues, the comma-bacillus cannot produce the phenomena of cholera by intoxication, but by absorption of the poisonous secretion of the bacillus from the intestine—

are all strongly controverted.

"J'ai fait," he says (p. 121), "avec sincérité et loyauté l'application de la doctrine de Koch à la thérapeutique du choléra. Si le parasite habitait exclusivement la cavité intestinale, il devait suffire, pour entraver la maladie, de rendre l'intestin inhabitable pour les microbes, il fallait faire l'antisepsie intestinale." From statistics of 44 cases treated with iodoform and naphthaline where intestinal asepsis was decidedly produced, the deaths of 29 gave a mortality of 66 per cent.—no better than results in other hands. Professor Bouchard hence concludes (p. 123) that his therapeusis has been absolutely inefficacious—"Elle prouve, de même coup, que l'agent pathogène du cholera n'habite pas exclusivement la cavité intestinale;" and further, "Je conclus en disant que le bacille-virgule ne sécrète pas le poison cholérique."

It is shown by experiment (Chap. IV.) how morbific materials, secreted by microbes, are eliminated by the kidneys—choleraic urine injected into rabbits producing true cholera symptoms. The contracted pupil of the algide stage is shown to be due to anuria and uraemia, and this "poison urémique" is usually superadded to the true "poison cholérique," which latter is produced by the human organism at the instance of the still unknown pathogenic microbe.

Perhaps the most instructive chapter of all is that on "The Antiseptic Treatment of Acute Infectious Diseases." In opposition to the sophism that "what will kill the microbe will first kill the patient" we are told that antisepsis does not aim at killing the microbe, it only prevents its multiplication. "In fact, when in infectious diseases the victory is decided in favour of the ferments, it is because these latter are incessantly reproduced, because new combatants, ever increasing, succeed those which are used up in their struggle for existence with the animal cells."

Professor Bouchard is a firm believer in quinine in fevers—especially enteric—and considers that almost all "antithermic" remedies are antiseptic (p. 280). "De toutes les maladies fébriles, la fièvre typhoïde est l'une de celles òu l'hyperthermie se laisse le mieux réduire par la quinine," and gives reasons for believing that quinine reduces temperature in fevers, not by its physiological action on the organism of the patient, but by its deleterious action on "les végétaux provocateurs de la maladie." Carbolic acid is different. It is truly antithermic, lowering the temperature even of the healthy man by its physiological action on the organism of the individual, and not its action on the infectious agent.

Numerous other antiseptics are spoken of, and their lethal intravenous doses specified to aid further investigation. There is an interesting description of intestinal antisepsis by charcoal in enteric fever. Those cases left to themselves abound in poisonous alkaloids in the alvine discharges and urine, whereas in those treated with charcoal traces only are found. As best fulfilling the requirements, salicylate of bismuth or a mixture of iodoform and charcoal are recommended; and here one remarkable experiment may be cited—"An extract of 17 grammes of normal fæcal matter per kilogramme of the animal is injected into the veins of a rabbit; it dies in convulsions in less than a minute. . . . I have been able to inject in the same manner, without even incommoding the animal, the extract of 200 grammes of fæcal matter from a typhoid patient treated by the 'iodoformed charcoal.'" The good results further include a mortality of 10 per cent. as against 20 to 15 per cent. with pure charcoal.

In conclusion, there is not a page in the book but is replete with the most interesting matter vividly expressed, and it is without doubt one of the most remarkable books of the past year.

Guy's Hospital Reports. Vols. XLVII. and XLVIII., being XXII. and XXIII. of the Third Series. London: J. & A. Churchill. 1891 and 1892.

VOLUME XLVII. opens with a short but vivid notice of Sir W. Gull's life and a list of the papers he wrote. It is to be regretted that a selection from these has never been reprinted in a collected form.

Mr. Davies-Colley gives thirteen cases of anthrax, or malignant pustule—two of the first eight ended in death, the last five were treated (in addition to excision) by the internal administration of powdered ipecacuanha (as used by Dr. E. B. Muskett for splenic fever in cattle), and all recovered, although three had the anthrax in the neck. Mr. P. C. Evans tested the action of ipecacuanha on pure cultures of the Bacilli anthracis, and found that two grains added to tubes containing 5 c.c. of broth invariably destroyed the vitality of all the anthrax bacilli present, and no growth recurred in the tubes inoculated, provided always that the bacilli contained no spores. This latter proviso is not a serious one, as anthrax bacilli never produce spores in the tissues of a living animal. Later on in the volume Mr. Evans devotes fifty-eight pages to an account of experiments made with various antiseptics and disinfectants. These were carefully carried out—the quantity used, its dilution, and the strength of the colony of micro-organisms attached being carefully estimated.

Dr. Westbourne and Mr. Jacobson give two cases of obscure tuberculosis, in which the diagnosis was made clear by the result of inoculating animals.

Vol. XLVIII. contains two interesting papers by Dr. H. J. Campbell. One is on some interesting pathological conditions met with in animals from the *post-mortem* room of the Zoological

Gardens. There is a striking resemblance shown in the pathological changes of pulmonary tuberculosis in adult monkeys and in young children. In monkeys—"A caseous broncho-pneumonia is exceedingly common, rendering the whole or the greater part of one or more lobes quite solid, whereas cavitation, though occasionally present, is rare. Again, in several cases the disease has apparently spread from a bronchial gland directly to the adjacent lung. Again, as in children, the roots of the lungs were not infrequently found to be the parts most affected."

The second paper is an attempt to answer the question—"Why does phthisis begin in the apex?" Dr. Campbell considers the cause is that in man the apex is extra-thoracic, and is, therefore, pressed upon during inspiration. Consequently only a small quantity of oxygenated air reaches it. The pressure during expiration being less on the apex than elsewhere throughout the lung, air rich in carbonic dioxide is forced into it; there is also from the same causes retention of secretion. Dr. Kingston Fowler believes that the primary lesion is generally from 1 inch to 1½ inches below the summit of the lung. This is the point of junction between the extra- and intra-thoracic portions of the lung, and consequently the part which is always approximately in a condition of stasis, being constantly subjected to equal pressure from either side. In monkeys no part of the lung is extra-thoracic.

Dr. Birdwood argues that small-pox is a surface mycosis rather than a blood zymosis, and describes some cases where the eruption seemed to follow the surfaces of exposure.

Dr. Parker reports seven cases of intra-spinal hæmorrhage.

Dr. Frederick Taylor contributes an important article containing notes of fifty-four cases of malignant endocarditis, and there are other papers of interest.

The Pathology of Mediastinal Tumours, with Special Reference to Diagnosis. By JOHN LINDSAY STEVEN, M.D., Assistant-Physician and Pathologist, Glasgow Royal Infirmary, &c. London: H. K. Lewis. 1892. Pp. 100.

THE contents of this volume formed the subject matter of a course of post-graduate Lectures delivered in Glasgow in 1890. They form a most valuable book, representing as they do a vast deal of careful original work; and we consider Dr. Steven's volume as the most important addition to our knowledge of mediastinal tumours that has appeared for a considerable time.

After a short introductory chapter, chiefly historical in nature. Dr. Steven discusses the classification of mediastinal tumours. He refers to the uncertainty as to what are and what are not cases of Hodgkin's disease. His distinction is that this disease is one affecting equally many parts of the organism, while "anything in the nature of a mediastinal tumour which can be regarded as essentially a local manifestation, whether liable to metastasis or not, can have no relationship with Hodgkin's disease."

Omitting, therefore, cases of this disease, Dr. Steven includes in his work the following forms of disease of the mediastinum:—

I. Sarcoma and Lympho-sarcoma.
II. Cancer.
III. Fibroma.
IV. Tubercular and other Specific New-growths.
V. Miscellaneous Tumours.

Each of these varieties is described at considerable length, and the value of these descriptions is greatly increased by the introduction of a number of accounts of illustrative cases. These cases are well selected, and are very instructive—the symptoms, physical signs, and *post-mortem* appearances being detailed at length.

The last chapter contains some general remarks as to the diagnosis of intra-thoracic growths.

We warmly commend this carefully-written work to our readers.

Lectures on Diseases of the Digestive Organs. Vol. II. *Lectures on Diseases of the Stomach.* By Dr. C. A. Ewald, Professor in the University, and Physician to the Augusta Hospital, Berlin. Translated by Robert Saundby, M.D. London: The New Sydenham Society. 1892. Pp. 464.

The first volume of these Lectures appeared about a year ago; we are very pleased to find the translation of this work completed by the publication of the volume before us. It will be found to give a most important and valuable account of that most difficult of subjects—stomach diseases. Its composition shows a happy union of scientific investigation and of accurate clinical observation, many cases are related at length, and innumerable authorities are referred to. We are pleased to find that many of these are English; and especially to note that Dr. Ewald has not overlooked that most remarkable case of ulcer of the stomach which opened into the left ventricle of the heart, described by Dr. J. Magee Finny. These lectures give in many respects the most complete account of stomach troubles with which we are acquainted.

The first lecture describes the chemical means by which the acids and the degree of acidity of the stomach-contents are estimated. The relative merits of the various tests for free hydrochloric acid are fully discussed, preference being given to the phloroglucin-vanillin test, and the resorcin test of Boas. The modern methods by which the motor powers of the stomach are investigated, as well as the ordinary methods of examination, palpation, &c., are fully detailed.

The diseases of the stomach are described under the following headings, viz.:—Stenoses and Strictures of the Cardiac and of the Pyloric Orifices, Cancer, Ulcer, Acute and Chronic Gastritis, and Neuroses of the Stomach (Functional Disorders). All these ailments are very fully discussed. They are illustrated by the recital of many well-selected cases; the question of treatment is in particular very fully gone into—a point in which these Lectures compare very favourably with many German works on medicine that we have recently seen.

In reviewing volume I. of this work, we were obliged to call attention to the bad English of the translation; we are glad to find that this volume has been very well rendered into English.

We can commend this work to our readers as a happy combination of the most recent and accurate scientific investigation, with careful clinical observation.

Epidemic Influenza: A Study in Comparative Statistics. By F. A. DIXON, M.A., D.M., Fellow of Wadham College. With Diagrams and Tables. Oxford: Clarendon Press. 1892. Pp. 29.

IN this work the statistical materials on the subject of influenza, which have been accumulating for many years past under the direction of the Registrar-General, are most carefully analysed, and are compared with other similar data derived from foreign sources.

There are first some general remarks on the course of the last three epidemics; the remainder of the book being taken up by Tables and Plans. The death-rates of various diseases in epidemic times, the meteorological conditions, and the effects of age, are all most fully investigated.

This book cannot fail to be a mine of knowledge to anyone writing on the natural history of influenza.

Charts for Recording the Examination of Urine. London: H. K. Lewis.

WE have been sent several of these forms. They contain on a neatly printed sheet spaces for describing the amount, colour, sediment, amount of chlorides, presence or absence of albumen, &c., of a specimen of urine, the constituents being subdivided into normal and abnormal. The average amount of the normal constituents is given for comparison. A space is left wherein to describe and figure the results of microscopic examination.

If anyone wishes to describe the results of urinary analysis on such a form, we can recommend that before us; for our own part, we are content with a sheet of writing paper.

The Practical Treatment of Cholera. By G. SHERMAN BIGG, A.M.S., F.R.C.S. Ed.; late Staff Surgeon, Allahabad, India. London: The *Record* Press. 1892. Pp. 80.

THIS little book contains a good account of cholera, its prevention, and treatment. It contains nothing very novel, but its directions are sound and useful, and are given with sufficient detail. The author, however, confines himself entirely to the mode of treatment he himself advocates; other methods—as, for example, the intravenous or subcutaneous injection of saline solutions—are not mentioned. A number of useful recipes, suitable for convalescent patients and for other invalids, are appended.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. XIII. Sialagogues—Sutugin. Washington: Government Printing Office. 1892. Quarto. Pp. 1005.

WE have to record the completion of another instalment of this great work. This, the thirteenth, volume brings the Catalogue down to almost the close of the entries under the letter "S," and Dr. Billings may be congratulated on having come within measurable distance of the termination of his gigantic literary task—the compilation of the largest and fullest catalogue of medical books which the world has probably ever seen.

The present volume includes 9,751 author-titles, representing 4,213 volumes and 6,806 pamphlets. It also includes 13,498 subject-titles of separate books and pamphlets, and 29,896 titles of articles in periodicals.

The work, so far as published, embraces 147,329 author-titles, representing 71,068 volumes and 126,806 pamphlets. There are also in the thirteen volumes 141,782 subject-titles of separate books and pamphlets (book-titles), as well as 423,704 titles of articles in periodicals.

RECENT WORKS ON COOKING.

1. *Real Cookery.* By "GRID." London: T. Fisher Unwin. 1893. Pp. 86.
2. *Tasty Tit-Bits and Dishes Dainty.* Compiled by LADY CONSTANCE HOWARD. London: The *Record* Press, Limited. 1892. Pp. 162.

WE proffer no apology to our readers for noticing works on Cookery in the pages of an exclusively medical and scientific publication. "May good digestion wait on appetite, and health on both" is one of the best wishes we can offer to the sick or convalescent; and it cannot be realised unless the patient's food is properly cooked, so as to create appetite first and aid digestion afterwards.

1. "Grid" is a gentleman of taste and a man of sense. *Par parenthèse,* there is internal evidence that the author of "Real Cookery" belongs to the sterner sex. At page 25, he observes, "One of the very best dinners I ever enjoyed was given by a bachelor in his lodgings." Again, at page 30, he betrays his sex by apostrophising one of his readers thus, "And you, dear madam, let me urge *you* to consider the importance of an attractive dinner-table if you wish to keep your husband from his club."

We have said "Grid" is a man of sense, because, in Part I. of his "Real Cookery," he insists that no meats should be fried, all sauces should be served separately, gas stoves should be eschewed, joints should not be baked, patent sauces are not real cookery, soups and vegetables should not be peppered in the kitchen; fish, flesh, and fowl should be grilled and not overcooked; *entrées* should be "good," not "messy" or "flabby;" the dinner-table should be decorated simply, and properly lighted; no strong-scented flowers, or fads or frills, or "'greenery-yallery' dirty-coloured stuffs" "disposed limply on your table."

Part II. includes a number of "recipes" (Is our author a member of the medical profession?) intended to illustrate the foregoing principles; and the book concludes with a "Patient's Bill of Fare," which would thoroughly frighten out of his senses a Murchison, or a Hilton-Fagge, or a Graves—even though "he fed fevers." Under the heading "Liqueurs" we observe an useful hint to the effect that, for a stimulant, a small liqueur-glassful of Chartreuse in half a tumbler of water may be taken. On page 86 there is a short list of table-waters, to which 'Reginaris" might very well be added in a second edition. This palatable and refreshing natural mineral table-water is now imported direct from the spring at Niedermendig, Germany.

2. *Place aux Dames!*—In the second little work before us, Lady Constance Howard comes to the rescue of invalids, convalescents, "*and others*," with her alliterative "Tasty Tit-Bits and Dishes Dainty." Like "Grid's" work, this book is divided into two parts, of which the first consists of a number of excellent receipts, suitable for both the healthy and the invalid. In her preface Lady Constance fervently exclaims, "May some of my dishes tempt some invalid appetite!" This end is sure to be attained if the "little repasts for fastidious appetites" which she suggests are "daintily dished up," "if hot, served as *hot* as they can be eaten; if possible, without the sick person knowing beforehand what he or she is going to partake of, and with all the indispensable adjuncts of clean table-napkins and table-cloth (if partaker is able to sit up; if not, a tray with a snowy cloth), bright silver, sparkling glass, pretty china, and above all a little vase of *sweet*, *fresh* flowers, only costing a few pence, but which insensibly cheer up the invalid with the visions of returning health, the lovely country, and brighter days."

The second Part of the book is in more questionable taste. It is devoted to "Recommended Specialities," and includes a number of receipts based on samples of specialties (as we prefer to write the word) sent to Lady Constance for notice by certain well-known firms, which seem also to have largely advertised at the end of the book. These receipts, however, will no doubt prove useful to the many who now habitually employ specialties in home and sick-room cookery.

Both the books we have been noticing are neatly brought out, and are singularly cheap—"Grid's" costing only one shilling, and Lady Constance Howard's only eighteenpence.

Hygiene and Public Health. By LOUIS C. PARKES, M.D., D.P.H., Lond. Univ.; Fellow of the Sanitary Institute, and Member of the Board of Examiners; Lecturer on Public Health at St. George's Hospital Medical School; Medical Officer of Health and Public Analyst for the Parish of Chelsea. Third Edition. With Illustrations. London: H. K. Lewis. 1892. Crown 8vo. Pp. 523.

IN this third edition Dr. Parkes has endeavoured, and generally not in vain, to keep abreast of the rapid progress of sanitary science—for example, the article on diphtheria has been re-written in the light thrown upon the nature and ætiology of the disease by Dr. R. Thorne Thorne, F.R.S., in his Milroy Lectures for 1891. Short articles also have been inserted on—(1) Smoke prevention by mechanical appliances (pages 240–244); (2) Epidemic influenza (pages 457-460), based on Dr. Parsons' Report to the Local Government Board for England on "The Influenza Epidemic of 1889–90;" and (3) Weather observations (pages 303–308).

The author's remarks on bacteriology have, as a rule, been brought up to date, but they are sometimes too scanty and superficial.

We would like to know what warrant Dr. Parkes has for stating that "in typical cases (of enteric fever) the mortality varies from 15 to 25 per cent. of the attacks." This is a far higher rate of mortality than that to which we are accustomed in the Dublin hospitals "in typical cases." He is happier when he states that "in early life the type of the disease is less severe than in adolescence and adult age."

In the section on "Disinfection" no mention is made of the valuable aerial disinfectant discovered by Professor Emerson Reynolds, F.R.S., and named by him "Thiocamf."

We have, in conclusion, to endorse the favourable opinion of this work expressed by us in a full notice of the first edition, published in the number of the Journal for June, 1890 (Vol. LXXXIX., page 530). The fact that two editions have been exhausted within three years proves that the book has adequately met a want which was felt by students and practitioners alike in their researches into Hygiene.

Aix-la-Chapelle (Aachen) as a Health Resort. By Drs. Alexander, Beissel, Brandis, Goldstein, Mayer, Rademaker, Schupmacher, and Thissen, of Aix-la-Chapelle. Translated by James Donelan, M.B. London: J. & A. Churchill. 1892. Pp. 323.

This work has been written by a number of the medical men of Aix-la-Chapelle, as a guide to the town and to its medicinal waters.

After a historical and geographical introduction, we have a detailed account of the baths and mineral waters, their uses and physiological effects.

The second and larger section of this work consists of chapters on various diseases which are commonly treated at Aix-la-Chapelle, with full details as to the mode of treatment and its effects—such diseases are gout, arthritis deformans, chronic catarrhs, syphilis, diseases of the nervous system, and many others.

The book is carefully written, and contains a great deal of information. It will be found useful—a full and accurate guide to the baths and medicinal waters of Aix-la-Chapelle.

GASTRIC ULCER IN A CHILD TWO AND A HALF YEARS OLD.

Dr. James F. E. Colgan records (*Medical News, Philadelphia*, Oct. 8th, 1892) a case of gastric ulcer in a child two and a half years old, death occurring during a convulsion. The ulcer was on the posterior wall, at the cardiac extremity, close to the greater curvature. Chronic gastric catarrh from unsuitable food seemed to be the origin of the disease; the cause of the fatal result was peritonitis following perforation.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

CLINICAL RECORDS.

Graves' Disease.[a] By ARTHUR WYNNE FOOT, M.D., University of Dublin; late Senior Physician, Meath Hospital, Dublin; Professor of Medicine, Royal College of Surgeons in Ireland.

IN the month of February, 1890, you had an opportunity of seeing a case of exophthalmic goître in a man. This is an accurate drawing[b] of him. The symmetrical protrusion of the eyes was well marked, the excited action of the heart was evident, while the thyroid swelling was quite inconspicuous, for you see he could arrange his collar and necktie in the usual fashion. The complete triad of symptoms is seldom as fully marked either in the case of males or of children who may be the subjects of this disease as it is in the adult females who more usually furnish examples of it. It is also stated that males are affected at a more advanced age than females.

The case I refer to is that of L. K., a coachman, aged fifty. Five months before you saw him he had sustained a severe shock by the death of one of the stablemen under his charge. He had allowed this helper to exercise a thoroughbred horse; the horse bolted, and threw the man, who was killed on the spot. The coachman fretted very much over the occurrence, reproaching himself for having allowed him to mount the animal. Two months after the accident his wife observed the prominence of his eyes, and said to him—"Why do you stare so?" At this time he had occasional diplopia; for example, when exercising his horses early in the morning he would see two boys on the road before him when there was but one, which he observed was a strange thing to happen to a person at that time of day. About the same time he noticed that his *heart at the least little work would get into a flurry, and he would perspire.* When he came under observation here, for which both you and I must feel indebted to the kindness of Dr. C. E. Fitzgerald, he felt much the better of several bottles of quinine he had taken. His heart was quieting down. The pulse was 112 at the wrist, but weak in comparison with the cardiac impulse. He was treated with belladonna, and was soon able to return to his situation, proptosis (not very extreme) being then the only obvious departure from his ordinary state of health.

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[a] A Clinical Lecture delivered at the Meath Hospital. Reprinted, by permission, from International Clinics. Volume I. Second Series.

[b] The drawings alluded to here and elsewhere in this paper were shown to the class.

On the 27th of April, 1891, Thomas D., late constable in the Royal Irish Constabulary, was admitted with exophthalmic goître, and remained a month under observation. He was a married man, aged twenty-eight, height five feet eight inches; his weight on admission was ten stones, it had been twelve stones a year before. His state of health, in consequence of which he had been discharged from the force, was attributed to over-fatigue, worry, and harassing duty on protection stations in Tipperary and other disturbed parts of the country. His symptoms commenced with palpitations in March, 1890, and were followed by exophthalmos in the ensuing May, and by thyroid swelling in the month of June. He had *a continual tremble and heat over him, threw the bedclothes off him at night for coolness and perspired heavily* two or three nights in each week. While in hospital he lost two stones in weight, making a decrease of fifty-six pounds in little more than a year. The right eye was the more prominent of the two, and the right side of the thyroid was larger than the left. The mean rate of his pulse (sixty-two observations) was 105; average of the morning pulse 103, of the evening pulse 108. There was no sugar found in the urine, nor was there pigmentation of the skin. He had attacks of diarrhœa, without colic, for two or three days at a time, subsiding spontaneously.

While in hospital he was kept on iron and digitalis, combined as follows:—

℞. Tinct. digitalis, ʒi;
Tinct. ferri perchloridi, ʒii;
Acidi phosphorici diluti, ʒii;
Aquæ, q.s. ad f℥viii.—M.
S.—Two tablespoonfuls three times daily.

When discharged, which was at his own request, the proptosis might escape observation; the thyroid tumour had greatly decreased; the cardiac symptoms were variable, any excitement, exertion, or even a change of position producing a sudden acceleration of rhythm.

Cases of Graves' disease in men are so rare that it is now eighteen years since we have had another male case of exophthalmic goître in the hospital, at least that I have heard of.

September 3, 1873, Robert McG., bachelor, aged thirty-seven, who neither smoked nor drank, was sent to me for treatment. He was the postmaster in a country town in Meath. He was also the champion dancer of his neighbourhood, and on the night of the 10th of February, 1873, he had "kept the floor" for three hours without cessation, wearing out many successive partners. He only desisted when his male competitors had resigned the contest. Two days after this over-exertion he got ill with what might have been called "fatigue-fever"—with rigors, headache, retchings. In his own words, he was for five or six weeks as bad as he could be with pains in the head, retching, and perspirations; during this time he could hardly sleep at night, and, when able to do so, his rest was disturbed by frightful dreams. In the third week of this illness he noticed a "tipping in his ears" connected with his heart when he lay on either side. At the time he got sick his weight had been thirteen stones four pounds (one hundred and eighty-six pounds); in September he weighed ten stones four pounds (one hundred and forty-four pounds). This loss of weight astonished him the more because his appetite had of late been unusually large. In the six months which had elapsed before his admission to hospital, polydipsia, bulimia, and diaphoresis had become established; his collars became an inch too small for his neck; the left lobe of the thyroid was especially enlarged; there was a humming buzz, like that of a fly in a paper bag, over each lateral lobe of the gland. His eyes were symmetrically prominent, bright, restless, and had a humid radiance. There was a fulness above, between the eyebrow and the upper lid, and crescentic bags about the inferior palpebræ. The heart was beating at 129. The order of appearance of the symptoms had been, first, *palpitations* during the febrile commotion and soon after the over-exertion, increased so much by movement, or by any mental excitement, that he could hardly walk across his room, and attended with urgent dyspnœa; the exophthalmos came on in the following May and June; the neck swelled subsequently. The violent action of the heart, carotids, and thyroid vessels was distinctly seen on inspection of the bared chest. There was evident cutaneous hyperæmia over the front of the thorax, *tache cérébrale* being very well marked. Flashes or, as he called them, *blazes of heat* thrilled all over his head and face. He frequently cleared his throat with a short nervous cough unattended with expectoration. His muscles were tremulous and unsteady.

On account of his occupation in the country—that of a rural postmaster—he declined admission into hospital, saying he had only come for advice and information about his complaint. He was, therefore, ordered m. xv tr. digit. + m. xv. tr. ferri perchl. bis die in aq., advised to avoid excitement as much as possible, and to report himself when convenient.

October 2.—The quantity of digitalis and iron was doubled—*i.e.*, increased to āā m. xxx bis die.

October 16.—Heart's action regular, seventy-two to the minute; goitre much reduced; bruit only in the right side of the gland; exophthalmos as before; to stop medicine for the present.

October 30.—Pulse regaining its rate since omission of the medicine, now 128.

November 13.—Pulse, sitting, 105. Dr. C. E. Fitzgerald kindly examined his eyes; no pulsation of central vessels; one eye very hypermetropic.

December 18.—A return of all the symptoms, owing to an altercation with a man who it was stated had attempted to stab him; great palpitation ensued; pulse 120; increase of proptosis and of general nervous disturbance. The digitalis and iron were now resumed. He was in the hospital under the late Dr. Stokes in January and February, 1874, and derived benefit from rest and the inunction of digitalis ointment over the heart. His average pulse during the year 1873 was 111. I saw him last on November 9, 1882. The eyes were then of a natural size; there was no goître; pulse was 98; and heart quiet. He was able to attend to his business as usual.

This man always derived great benefit from cold salt shower-baths, for which he used to go to the sea-coast at Malahide. He noticed every change of air, even during a drive up to Dublin from Ashbourne (twelve miles), did him good.

Von Graefe's *lid-sign* was not present in this case, for when he looked down towards the ground the upper lids followed the globes, and did not leave a band of sclerotic uncovered between their tarsal margins and the upper border of the corneæ. Von Graefe's sign consists in an impairment of the consensual movement of the upper eyelid in association with the eyeball. In Graves' disease this descent of the upper lid on looking down is, in a large number of cases, either in part or entirely wanting, so that a zone of sclerotic becomes visible above the cornea when the eyeball is rotated downward. Von Graefe's *lid-sign* is one of the earliest symptoms of Graves' disease, sometimes appearing when the exophthalmos is absent, or when it is present in only a slight degree. It may disappear while the prominence of the eyes still continues, and in proptosis from other causes, such as tumour or inflammatory exudation in the orbit, the symptom is entirely wanting. There is also a case on record in which, although the exophthalmos was unilateral, von Graefe's sign was present on both sides. Such facts show that the protrusion of the globe cannot be the cause of the phenomenon. It is very remarkable, considering the great relative rarity of Graves' disease in men, that, of the fourteen cases in which von Graefe observed his *lid-sign*, ten were males.

What is known as Stellwag's sign consists in an abnormal widening of the palpebral aperture, due to retraction of the upper lid, and of incompleteness and diminished frequency of the act of involuntary winking. It is more to this gaping of the palpebral aperture than to the exophthalmos that is due the remarkable and characteristic appearance which gives such a family likeness to a collection of drawings of such patients. It is to be remembered that von Graefe's lid-sign is not unfrequently absent in genuine cases of Graves' disease.

In the case of Robert McG. the complaint appeared to have been directly traceable to the severe muscular effort of continuous dancing. Virchow mentions excessive labour or fatiguing work as a cause. Walshe has known a grave form of the complaint produced by mountain climbing.

A man, aged twenty-two, presented himself at von Graefe's clinic, in 1866, who had, a few days previously, endeavoured to have connection with a girl, but had encountered active opposition on her part. The struggle lasted a considerable time, at the end of which, having failed in his attempt, he was utterly exhausted, and the cardiac palpitation which came on during the struggle did not cease. Next day the eyeballs began to be prominent and the throat to swell: in short he had acquired well-marked exophthalmic goître. The case excited much interest by wandering from one clinic to another in Germany in search of cure, and has been recorded in von Graefe and Saemisch's "Handbook of Diseases of the Eye."

In connection with this subject you see on the table ten or twelve drawings of females affected with Graves' disease. Some of you may recollect having seen several of these here, for, although not a common disease in women, it is very much less rare in them than in men. This leads us to the relative frequency of the condition in the two sexes. All observers are agreed as to its much more general occurrence in females. Russell Reynolds in four years, from 1886 to 1890, made notes of forty-nine cases of Graves' disease which had come under his care in private practice; forty-eight were females, only one was a male. The proportion of females to males varies with different observers in their collections of cases; thus, the estimation of Cheadle is eight females to one male; of Eulenberg, two to one; of von Graefe, six to one; of Hill Griffith, twenty-nine to three; of Henoch, twenty-three to four; of Angel Money, seven to one; of Praël, twenty-eight to one; of Romberg, twenty-four to three; of Taylor, twenty to four; of Samuel West, forty-eight to three; of Withusen, forty-two to eight; of Hale White, twelve to one. Of nineteen cases of which I have kept notes there have been sixteen females to three males.

There is no uniform order of appearance observed in the advent of the cardinal phenomena of Graves' disease, but the sequence considered to be the most usual is, first, palpitation; second, goître; third, exophthalmos. It belongs to the rarest exceptions for the cardiac palpitations not to form the first symptom, and it will generally be found that the proptosis is a late one. It may also be laid down as true that while the cardiac symptoms are the most constant, the ocular symptoms are the most striking. In some cases the three cardinal symptoms seem to have appeared simultaneously; in six out of thirty-eight of West's cases all the symptoms appeared at the same time. At other times the complaint runs its course without all of the three great features being present at any time. Among fifty-eight cases collected by Dusch, the cardiac phenomena were absent three times and goître four times. In several of Praël and Fischer's cases the disease was limited to a double exophthalmos. There may be palpitation and exophthalmos only; there may be palpitation and goître only; but it is doubtful if there are any accurate observations showing that exophthalmos and goître ever occurred without palpitation. When one or even two of the main symptoms are inconspicuous, suppressed, as it were, or pushed into the background, the want of harmony between the movements of the eyes and those of the lids is of great assistance. These incomplete cases of Graves' disease might give much trouble in diagnosis were it not for some secondary or collateral symptoms which illuminate the imperfect forms (*formes frustes*) of this complaint. For, in addition to the essential and, to a certain extent, constant signs of the disease, there are some others which, although frequently and some even usually present, do not generally attain such prominence as to rank among the cardinal phenomena of the affection.

The principal of these *secondary symptoms* are muscular tremor, nervous instability, pigmentation of the skin, glycosuria, albuminuria, bulimia, diarrhœa, subjective sensation of heat, and diminution of electrical resistance. Repeated study of the disease has led to one or more of the above symptoms being associated with the *triad* of great primary phenomena, so as to form the complex recognised as Graves' disease at the present time. The greatest importance is attached to the first two, so much so, in the case of tremor, that Charcot incorporates it with the three main symptoms, making a *tetrad* of primary phenomena. Russell Reynolds gives the same clinical status to "nervous disturbances," making a *pentad* of primary phenomena. Charcot remarks that the tremor, which is nearly constantly present, is more rapid than senile tremor or than that of paralysis agitans, there being nine or ten movements in a second, and in it the fingers do not shake of themselves, but merely share the movement transmitted to them from the rest of the body. It is general throughout the trunk and limbs, affecting all the larger muscles, but never the muscles of the head or intrinsic muscles of the hands or feet.

By nervous instability I mean to imply the existence of a peculiar nervous agitation which might be expressed by the words flighty, emotional, or excitable disposition. There is no doubt that under the heads of "tremor" and "nervous disturbances" are embodied a frequent and important group of symptoms, invariably present and usually severe, though various in character. Russell Reynolds includes tremor in the group of "nervous disturbances," adding to it "hysteric" symptoms, mental symptoms, perverted sensations, both physical and psychical, often leading to urgent insomnia. The neurotic relationship between Graves' disease and epilepsy, hysteria, and insanity has been observed by several. One of the most marked types of the complaint which I have seen was shown me in Derry Lunatic Asylum by Dr. Bernard. Dr. Geo. H. Savage has directed attention to the connection between exophthalmic goître and mental disorder. He thinks Graves' disease is even more common among the insane than among the sane. In the cases reported by him the form of insanity was melancholia, which in all passed into most violent mania; hallucinations were present, and the patients presented examples of mania of the most violent, destructive, and dirty kind. Dr. D. Drummond regards the occurrence of maniacal symptoms as an exceedingly unfavourable prognostic indication.

One of the cases (female) lately in hospital, of whom this is a good coloured drawing, has a special interest, inasmuch as she had developed the complaint in India, where it appears that Graves' disease is very rarely seen. Dr. Drake Brockman (Madras) reported to the Ophthalmological Society of London, at a special meeting for the discussion of Graves' disease, that, "although *goître* is met with in India in great numbers, he had never met with a case of *exophthalmic goître* among the natives in his fifteen years' practice in diseases of the eye."

Mrs. F., aged thirty-seven, was admitted to hospital January 20, 1891, affected with Graves' disease for at least thirteen years. Attached to the Seventeenth Regiment she went to India in good health, aged twenty-two, in October, 1875. Her health continued excellent till after the birth of her first child, which occurred ten months after her arrival in India. She then got "fever and ague," and after that dysentery. For the latter she was six months in hospital at Mhow. The doctor there—about eighteen months after her arrival in India—observed the swelling in her neck, and applied iodine to it. She recollects that her eyes were prominent then, and also that she had palpitations. Before the attack of dysentery she weighed ten stones (one hundred and forty pounds), and after it seven stones six pounds (one hundred and four pounds). Some time after leaving Mhow she came across a civil surgeon, who said she had Graves' disease. She remembered the name, and recognised it when she heard me use it at her bedside. At this time the thyroid swelling prevented her fastening the neck of her dress or wearing a collar. She had subsequently five or six attacks of "fever and ague," accompanied with a tumour, tender to pressure, which protruded her side, and which the doctor called splenitis. She had been twice to India and back. At Malta, eight years ago, some coal-dust got into her right eye—the more prominent of the two—and an ulceration of the cornea resulted.

She was a tall, spare brunette. Her prominent staring eyes were the most striking feature of the complaint; there was no perceptible goître; she could easily fasten the neck of her dress. The average of six observations on her pulse, which was small, weak, and uncertain, was 84. There were basic systolic murmurs over the pulmonary area, and jerking action of the carotids, especially on the left side. Of collateral or secondary symptoms there was no obvious tremor, and she said she had never had any; she could thread a needle, hold a full cup of tea, and write. Copious perspiration was habitual with her. On palpation of the abdomen I found it quite slippery from its being covered with a greasy perspiration. The skin of the abdomen was of a dingy yellow colour, contrasting with that of the chest. This pigmentation was limited above by the costal margin of the thorax. She was aware that her skin was different in colour from what it had used to be, for when I asked her if she thought any change had taken place in it, and where, she said yes, in the skin over her stomach, adding, "the skin on my legs is not the colour it used to be." She considered the colour of her breasts had altered more than that of any other part. Her friends had noticed the change of colour in her skin, particularly on the face, on her return home, and had attributed it to the Indian sun, an explanation with which she did not agree, as she said she was always well protected from it. There was marked mammary atrophy. The catamenia were regular, but scanty. The areolæ were not darker than they should be in a woman of her complexion who had borne children. She had two living children, and had had two miscarriages in India. She had noticed that her appetite had been unusually large since she had got this complaint; *she never feels satisfied* (with food), *and yet is not gaining flesh.* This combination of bulimia with emaciation is not unfrequent in Graves' disease. The urine was several times carefully examined for sugar or albumen with negative results.

As she was a very chronic case (thirteen years), she was given m. v tinct. bellad. t. d. in aq. camph.; this was soon increased to m. x, and again to m. xv; there was never any dilatation of the pupils produced, though a transient erythema appeared on the left side of her forehead. After a stay of eighteen days in hospital, she left of her own wish, as she felt able to attend to her domestic duties. Her average pulse while in hospital (recumbent) had been 90. She left on February 6, 1891, and whatever took place at her home I could never find out, but, at all events, on the same evening her husband applied at the hospital to have her readmitted, as he thought she was dying, and did not know what to do with her; she could not be taken in till the 9th. His account of her was that "she got terrible bad about the heart, her hands and arms all went black, and the power left her legs." After her readmission she remained for three weeks in the hospital. Her pulse on this second visit was more rapid, averaging 101; she had insomnia; took weak turns at night, beginning with pain in the epigastrium. In these "weak turns" first her "head gets queer, then her hands get powerless;" a phrase which she occasionally used was that waves of nervousness went through her body at times. During this relapse she suffered from the flighty restlessness aggravated by perverted sensations so well described by Russell Reynolds under the name of "nervous disturbances," to which he gives a primary rank in the complex of this malady.

The *pigmentation* which this case presented, though not in a very exquisite degree, is a condition which has been several times noted as occurring in exophthalmic goître, and which has been by some attributed to the influence of the sympathetic nerves. The usual situations of the pigment are round the prominent eyeballs, on the face generally, the neck, axillæ, areolæ of the nipples, abdomen, and upper and inner aspects of the thighs. Wherever pigment occurs normally, there it is likely to be found increased. Dr. Drummond, of Newcastle, has carefully reported several cases in which this bronzing of the skin was well marked. Early in this year (1891) Dr. A. T. Davies exhibited to the Hunterian Society (London) a case of Graves' disease in a woman, aged twenty-six, who had been three and a half years under his observation. She had been originally "frightened by burglars." Such general pigmentation of the skin had appeared as to suggest Addison's disease, and, in illustration of this, a portrait from St. Bartholomew's Hospital Museum was shown, labelled "Exophthalmic Goître with Addison's Disease." In course of time the pigmentation had to a great extent faded, as the disease became quiescent. Mr. Denton Cardew stated to the meeting that he had found an abnormal increase of pigment in seventy per cent. of Graves' disease, occurring both in the axillæ, &c., and in parts liable to pressure, as by a garter. I cannot help thinking this to be an over-estimation of the frequency of this symptom.

This is a drawing of a case of Graves' disease in a girl, Mary B., aged twenty-one, who was admitted on May 1, 1890, with a pulse ranging between 116 and 130, enlargment of the whole thyroid, and symmetrical exophthalmos. She was affected with a continuous *tremor*, her "hands shaking so much that she can't do much with them." *Subjective sensation of heats*—"always feels warm;" an immense appetite—*bulimia;* "immediately after her dinner she will begin to eat bread and butter as if she had had nothing;" her bowels frequently act as often as twelve times a day, solid motions. Notwithstanding, she has wasted greatly; her aunt says she was altogether too stout about two years ago; she now weighs but eight stones eight pounds (one hundred and twenty pounds); height five feet. Amenorrhœa for nine months; had previously been regular since fifteen years of age. A small but distinct quantity of albumen in the urine, no sugar.

The complaint was attributed to constant anxiety and agitation from living in a "haunted house." Her people were so disturbed by inexplicable nocturnal noises that at last they had to change their quarters. Her medical treatment consisted in pills of two grains ergotin, one grain phosphate of iron, and half a grain extract of belladonna, ter die. The ergotin was soon increased to three grains in each pill, and these she took, with short intermissions, for two months. Her eyes were frequently douched with cold water, and pressure made on them at night with muslin bandages. By July 1 her eyes were not more prominent than those of ordinary people, her neck was smaller, heart quieter, and the ravenous appetite had subsided. July 22, catamenia reappeared, after an absence of eleven and a half months, with exception of a mere sign once while in hospital. They came regularly in August and September, and she derived benefit from sea-bathing during the autumn. At the end of the year she was still "nervous and shaky" after any excitement, and under such circumstances the pulse would run up to 130: the goître was the least reduced of the three main symptoms. She had been six years affected when she came under observation.

This drawing is a picture of a girl, Mary K., aged eighteen, who was admitted August 7, 1871. The circumstances alleged to have induced the complaint in this case bear out the views of Graves, Stokes, Trousseau, and others on the effect of fright as a cause of the condition. About nineteen months before admission, while in perfect health, she was coming home in the dusk through a grove near her house. She thought she saw, running past her, a man who was an intimate acquaintance of her family. She called him by name, and, surprised at his not replying, ran to overtake him, tripped over a stump, and fell; on getting up the man was out of sight. On reaching home she told her father what she had seen, and about his strange behaviour. Her father observed it must be a mistake, for he hoped that person was at rest, as he had been dead and buried for some time. The girl was not aware that this man had left the country and died abroad. When she discovered that she had "seen a ghost" she "went off in a faint," which was followed by a "succession of swoons." For four months after she was "silly in her manner." Palpitation set in immediately after the fright; in ten or fourteen days the goître was noticeable, and shortly after that her eyes began to grow more and more prominent. The catamenia became completely suppressed. Her stepmother, from whom I got this history, observed "she was a fine girl when she got that fright, but her breasts withered away, and she never had a sign (catamenia) on her since." The whole thyroid was enlarged, with visible pulsation and palpable thrill. The average pulse during her stay in hospital (forty-seven days) was 123, ranging between 102 and 136; the radial pulse always was disproportioned to the cardiac impulse. Position had no constant effect on the rapidity of the heart's action, which was often more rapid in the recumbent than in the erect position. Hypertrophy of the heart was ascertained by measurement; she was painfully conscious of its action, could both hear and feel it, she did not know what it was to have it quiet; it kept her from sleep, even for fifteen minutes at a time, and prevented her from lying on her left side. The skin of the face and neck had a very marked leaden colour, more that of cyanosis than of pigmentation, which, as is seen in the drawing, contrasted with the tint of the skin below the clavicles. She had a diffused subjective sensation of heat; there was no true pyrexia at any time. Her skin was usually damped with a greasy, clammy perspiration.

On the 10th of August she was ordered m. v tr. digit.+m. v liq. ext. ergot.+℥½ inf. digit. ter die, which was in three days increased to every third hour. On the 14th the dose of the tr. digit was increased to m. x, and that of the liq. ext. ergot to m. xv. every third hour. She was kept in bed and fed with meat and claret. In a week's time (August 17) the heart was much quieter, she was able to lie on the left side and to sleep well. She now had a relapse of the exorbitism, from having one night taken it into her head to sing. Up to this time the bronchocele had quite spoiled her singing voice; the exertion and excitement of singing threw her back greatly. The digitalis was pushed till she was taking four grains of the powder and a quarter ounce of the tincture daily. Nausea then came on, and the pulse was reduced to 110, with fifteen intermissions (cardiac) in the minute. Digitalis was then omitted, and she was put on cit. ferri et quiniæ. She left hospital on the 29th of September, 1871. Three years after, May 2nd, 1874, on writing to Dr. H. Fitzgibbon, under whose care she was, he replied as follows:—"I saw the patient to-day, and found her washing clothes, and in better health than I had ever seen her. She has got fat, and has a good colour. The prominence of the eyeballs remains, and the enlargement of the thyroid gland, but there is no tumultuous action of the heart or arteries of the neck, and the venous thrill has quite disappeared. She menstruates twice every month. She had a slight return of the palpitations in July, 1872, in consequence of a scolding she got from her stepmother for letting a child she was minding get scalded; it subsided quickly under digitalis and galbanum pills. The mammary development subsequently became completely restored; she is now (1890) married, and the mother of several healthy children, and has no sign of her former complaint.

The depressing emotions are very operative in the causation of this affection. This is a drawing of a young woman, Miss McG., aged twenty-six, admitted April 10, 1880. Palpitations set in two years previously, in consequence of family altercations because she objected to marry a man her parents had selected for her; goître came on a year after, and exophthalmos nine months ago. Her pulse was 111, she was "always in a tremble," constantly perspiring, felt everything on her too tight. All the main symptoms were aggravated by the presence of the class, and even by the noise of their approaching tread. The lady who took this picture of her told me the goitre changed its size and shape often and quickly while she was making the drawing. She was given—

℞. Tinct. digitalis, ♏ xv;
Tinct. ferri perchloridi, ♏ vii;
Liq. strychniæ, ♏ iii.
S.—Three times daily.

Muslin bandages were applied to the eyes at night and cold spongings frequently during the day. June 9, 1880, she left the hospital after a two months' stay, and went to Merrion, where she bathed daily in the open sea, meanwhile taking the digitalis and iron regularly. August 20, she came to see me before returning home to Kanturk, County Cork. She had got quite fat and rosy, slept well, was able to walk ten or twelve miles a day, never felt stronger in her life. Heart does not beat at all (as forcibly) as it used, yet pulse is still 112; eyes almost of natural prominence; she says she used to feel as if they got smaller after each dip in the sea; thyroid still full and vascular, but she can now see the sinews (sterno-mastoid) in her neck when she raises her head. Catamenia scanty but regular. She was warned of the probability of a relapse if she were to give way to her temper.

The disease seems to set in much more suddenly in some cases than in others. This is a drawing of a girl, L. V., aged twenty-one, who was here in March, 1873. When eighteen years of age, she got a great fright from seeing a man fall down in a fit beside her, in a shop in Dundalk. Her eyes "started like with the shock," and protruded at once. Palpitations came on simultaneously; the goître was a later development. For a long time she was haunted by a picture of the man in the fit. Before coming under my care she had been up to Dublin to consult the late Dr. Stokes. When she came to see him she "could neither sit nor stand from the way she was shaking all over," and "had no power of herself at all." She had, in addition, a curious sensation of being taller or shorter than she really was (paræsthesia). When admitted to the hospital (March 10, 1873) she had been three years affected; the pulse was 120; she had had amenorrhœa twice, for periods of ten months; catamenia were then regular but scanty. Both eyes were attacked with conjunctivitis, owing to the long prevalence of dry east winds causing great clouds of dust. She always felt warm, had a great tendency to perspire, and often suffered from epistaxis. When the eyes were unusually prominent, as when under the influence of excitement, she had diplopia; this has occurred several times, though Trousseau says it is very rare. She found so much comfort from eye-bandages that when I temporarily removed them she substituted her pocket-handkerchief of her own accord. She was treated with pills of pulv. digit. and ferri redacti āā gr. i bis die, and m. x tr. verat. viridis in suc. conii t. d. The verat. virid. was gradually increased m. xl t. d.

April 25, 1873, I found her in a state of unaccountable excitement, with cardiac symptoms all aggravated, diarrhœa, exaggerated tremor, menstruating for the third time this month. She refused to remain in hospital, and left on the 28th of April, after a stay of one month and eighteen days, *in statu quo ante.* More than six weeks afterwards she told me she had been frightened out of hospital by the sudden death of a patient in the ward. This was the cause of her relapse. She was prevailed on to come in again in 1876, but got no better. When I saw her last, four years ago, she was quite a wreck; chronic amenorrhœa and neuralgia of the fifth nerve were what she most complained of.

The oldest female patient I have seen with Graves' disease was a Mrs. C., aged fifty, and she was an example of the incomplete form of the complaint, exophthalmos not being present. She was seized suddenly on the night of October 14, 1866, with such palpitations, dyspnœa, and stridor, as to alarm her household very much; the attack subsided towards morning, with copious perspirations. When I saw her the following day, I was told she had lately had much grief and anxiety owing to the death of two sons within four months, and that she had been so nervous that she had asked her friends not to tell her any bad news, because she could not bear it. The heart's action was strong and rapid, 120 to 140, with basic systolic bruits conveyed upwards. There was a pulsating goître, with bruit and thrill, especially at the right side. As she had an opportunity of leaving Dublin, I advised her to do so as soon as posssible, so as to change air and scene without delay, and recommended her to take m. x. tr. ferr. perchl. in aq. bis die. I have only since heard of her that she was not dead.

I have had two opportunities of making autopsies on cases of Graves' disease, but the examinations did not throw any light on the complaint; much time and trouble were expended on the investigation of the cervical sympathetic, which is now acquitted of being concerned in the production of the malady.

This is a drawing of a female, aged twenty-two, affected four months at the date of her admission, August 9, 1880. The three main symptoms well marked; of secondary ones, tremor, perspiration, and sensation of heat were present. No assignable cause except hard work. She died on the twelfth day of typhus contracted in hospital. The rapid action of her heart was remarkable in her antefebrile condition. Thus, 144 on admission, the average daily rate of pulse during the first month she was under observation was 128, and during the second month it was 126; yet during these two months she was taking almost maximum doses of digitalis, which is in favour of Eulenberg's view that the therapeutic value of digitalis and veratrine is slight in Graves' disease. The average rate of pulse before the typhus (one hundred and one observations) was 129.

The fever set in with marked rigor, and temperature 104° F. During its course her pulse averaged (twenty-five observations) 135: morning pulse 138, evening pulse 132. Daily temperature averaged (twenty-one observations) 104° F.: morning temperature 103·6°, evening temperature 104·3°. Before the typhus her temperature, though she always felt warm, was never elevated more than 1° above normal, and very seldom so much. In uncomplicated cases, though the patients speak so much of feeling warm, and though they dispense with covering at night for the sake of coolness, the elevation of temperature measurable with a thermometer is very slight. Charcot says that, as a rule, there is not the least increase in objective temperature.

The rapidity of the pulse in Graves' disease is at times, under the influence of excitement, very extreme. On this symptom is based the long name for the complaint proposed by Lebert in 1863—viz., "*tachycardia strumosa exophthalmica*," which is designed to be descriptive of the three cardinal symptoms. In a case observed in Dublin (M'Donnell's case), the pulse was never under 120, and sometimes was as high as 200; in a case reported by Banks, it was so rapid as to be impossible to count; in four cases given by Taylor, the pulse ranged between 134 and 144; Byrom Bramwell has in several instances noted a pulse of 180 in the minute.

Death may occur in Graves' disease with startling suddenness, and this even in uncomplicated cases. This is the less to be wondered at considering the very disturbed state of the heart's action, which is so often and for such a long time present. This untoward event may occur during an operation or after a particular medicine, and might be incorrectly attributed to either event. Annie H., aged twenty-nine, single, came to Guy's Hospital in June, 1873, suffering from exophthalmic goître. The exophthalmos was extreme, and she was much inconvenienced by difficulty in keeping the eyes closed during sleep. On June 30 she was placed under the influence of methylene ether, the object being to unite the margins of the lids along their outer fourths and to diminish the palpebral aperture. The patient died before the completion of the operation in one eye. ("Trans. Ophth. Soc.," vol. vi. p. 96.)

This is a drawing of a case of mine in which sudden death occurred after a medium dose of digitaline. It represents Jane B., aged twenty-eight, admitted October 20, 1884, with palpitations in existence for two years, goître for twelve months, and exophthalmos of more recent date. Of secondary symptoms, the most prominent were general tremor, insomnia, and mammary atrophy. On November 1, as the pulse, notwithstanding the use of digitalis, was 140 (her average pulse while in hospital was 114), the digitalis mixture she had been taking was stopped, and she was given one-sixtieth of a grain of digitaline in a pill of M'Kesson and Robins. She had but the one pill. Next morning the pulse was 160, temperature 103° F., she had urgent dyspnœa, and tossed herself about with spasmodic jerks in one of which she pitched herself out of bed. She died at one p.m. on November 2, twenty-four hours after getting the digitaline pill. At the post-mortem examination, made twenty-two hours after death, the lower lobe of the right lung was solidified with a brownish-gray exudation; it cut like a cake and sank in water; there was a deposit of flaky lymph in the fissure between the lower and middle lobes. The sudden rise of heat to 103° F., while before the highest temperatures had been 98·6°, 98·8°, and 99°, pointed to some visceral lesion. In explanation of the sudden death, as I was not then aware of the tendency to it in exophthalmic goître, I argued, at the time, that pneumonia frequently occurs towards the end of cachectic diseases; the stage of gray hepatisation is quickly reached under such circumstances. As Juergensen has shown, there are undoubtedly cases of pneumonia which terminate within twenty-four hours. The dose of digitaline was a medium one, and sudden death had occurred where none of it had been given and without assignable cause other than cardiac failure.

I need not have been at so much pains to purge my conscience about the digitaline, as Dr. Hale White has published cases to show that "patients with exophthalmic goître are particularly liable to die suddenly," and he attributes their deaths to minute hæmorrhages in the floor of the fourth ventricle. A knowledge of this tendency will modify your prognosis in what appears to many to be at the worst only a very tedious ailment, and one unattended with any but avoidable dangers. Hale White finds the average duration of life in his cases (twelve) to have been three and two-thirds years, so that the case you have seen here, from India, the woman who had the complaint thirteen years, was an exceptional one.

The pathological solution of Graves' disease offered up to very recent times—viz., some alteration in the cervical sympathetic nerves—fails to account for what finds a ready explanation in the assumption of a central lesion. The sympathetic theory was unsatisfactory, because those nerves have been frequently found to be healthy in well-marked examples of the affection, or else to present such changes as have been shown to be present in many other maladies; furthermore, this theory referred some of the symptoms to paralysis and others to irritation of the same nerves. Besides this contradictory action, it formulated the existence of a permanent and continuous condition of nervous irritation. The theory put forward by Sattler (1880) is precise and definite, capable of satisfactorily explaining the principal symptoms, and is also corroborated by the ex periments which Filehne has brought to bear upon the subject. Sattler assumes a lesion of the centre which presides over the vaso-motor nerves of the thyroid gland and of the intra-orbital tissues. The cardiac phenomena he ascribes to a lesion of the cardio-inhibitory centre for the vagus. Filehne concludes that the restiform bodies are the points traversed by the nerve-paths concerned. By dividing the anterior fourth of the restiform bodies, Filehne succeeded in producing exophthalmos; in some other experiments he also caused enlargement of the thyroid, and in one case all three symptoms of exophthalmic goître appeared. Sattler holds that the starting-point of the disease is in the medulla oblongata, near the origin of the vagus; he points out that the lesion probably is not always precisely in the same spot, for the order in which the symptoms appear is very various, and they are curiously mixed with others. There are good reasons for thinking that the lesion is a vascular one, which would usually diappear after death; it may also be so fine as to escape detection by ordinary means. The fact that post-mortem examinations may not always lead to the discovery of alterations in the vaso-motor and cardio-inhibitory centres does not invalidate Sattler's theory, as the occurrence of functional affections of the central nervous system is admitted. Hale White has actually found punctiform hæmorrhages visible to the naked eye on the floor of the fourth ventricle. In support of the probability of this part of the nervous system being the seat of disease in exophthalmic goître is the frequency with which diabetes has a family relationship to Graves' disease. Three remarkable cases of families, various members of which were affected either with diabetes or Graves' disease, are published by A. R. Manly (*Brit. Med. Jour.*, May 11, 1889, p. 1052). Filehne considers the exophthalmos due to vascular dilatation within the orbit, for the retinal arteries became dilated; and when the protrusion of the eye was on one side only, rapid enucleation of it showed that orbit to contain more blood than the other.

As to *treatment*, what I have myself seen do most general good has been, when procurable, rest of mind and body, cold applications to the chest, neck, and eyes, and muslin bandages to restrain the exophthalmos. The removal of these "nervous" and sensitive patients from exciting surroundings, from startling sights and sounds, and from the presence of inquisitive and staring neighbours, has an effect upon them like that which the quiet solemnity of a well-ordered hospital has upon a bad case of chorea. Medicines must be selected or combined in accordance with the requirements of individual cases. Digitalis does not often do as much as is expected from it. In recent cases an ice-bag or towel wrung out of cold water laid over the sternum will reduce the action of the heart as soon as and more safely than digitalis or veratrum viride. One or other of the bromides often helps to lessen the nervous commotion, especially if there is much cerebral excitement. At one time iron (for anæmia), at another, strychnin, or belladonna, acquire a reputation in isolated cases which they fail to maintain when subsequently exhibited. There is a great diversity of opinion about the treatment of this complaint. Some recommend, others condemn, the use of iodine preparations, and precisely the same may be said with regard to digitalis and to iron. Ergot and ergotin have some very warm advocates. I have carefully used the so-called galvanisation of the sympathetic, as directed by the best authorities, but was only convinced that it satisfied the patients that a great deal was being done on their behalf. Cold douching during the day and bandaging at night will reduce the prominence of the eyes, and lessen the constant anxiety arising from a strange and peculiar physiognomy. I have in several cases thought that full doses of ergotin, combined with the cold water and bandages, had a decided effect in lessening the proptosis. Certainly cold shower-baths and sea-bathing are very useful. Patients seem better pleased at an improvement in the exophthalmos than in either the goître or the palpitations; the goître may be, to a great degree, kept concealed, but there is no way of hiding the exophthalmos. This satisfaction is not to be wondered at if we consider how emotional, susceptible, and sensitive are the subjects of Graves' disease, how easily they are upset by trifles, and how much importance they attach to matters which are regarded by others as too trivial for notice. No matter what improvement may be effected by treatment, there is almost a certainty of *relapse* if the patient is not removed from the sphere of the predisposing and exciting causes. I do not wish to underrate the use of medicines in Graves' disease, but in order to employ them to advantage you must understand a good deal both about the malady and the patient.

I keep for the last a reference to the nomenclature of this complaint In 1786, Caleb Hillier Parry noticed a case of this disease in a woman. aged thirty-seven. She had goître, palpitations (pulse 156), and the eyes protruded from their sockets. Parry practised in Bath at the end of the last century and the beginning of this. After his death a collection from among his papers was published (1825), and under the heading of "Diseases of the Heart" is this case of exophthalmic goître. In Flajani's cases (1802) there is no mention of the protrusion of the eyes. Demours (1818) does not say anything about palpitations. In 1835, Graves published three cases of palpitation and goître, in the third of which the three cardinal symptoms of the complaint are pointed out. In 1840, von Basedow published an account of the disease, fixing attention upon the prominent eyes, and leaving the heart and thyroid rather in the background. Trousseau, in 1862, proposed and used the name of *Graves' disease.* Hirsch, in 1858, proposed and used the name of Basedow's disease. Such are the facts about this controversy. It is dealt with in detail by Dr. J. Wickham Legg, in vol. xviii. of St. Bartholomew's Hospital Reports, 1882, p. 9.

It is only right and proper to speak of it here under the name of Graves' disease, since it was described in p. 516 of Lecture XII. delivered in this hospital during the session of 1834–35, which is published in the *London Medical and Surgical Journal*, No. 173, vol. vii., May 23, 1835.

CHRISTIAN SCIENCE.

In San Bernardino, Cal., one Mrs. Eliza Ward practices as a Christian Science Healer, and in December last George Lord, suffering from suppurative meningitis, was "treated" by her and died. Pus accumulated "in the frontal sinuses and ethnoidal cells, finding its way into one orbital cavity, forcing the eye outward and downward about half an inch from its normal position; the pus also passed upwards, forming a sac above the left eye two and a half inches by one in depth." The *Occidental Medical Times* thus reports the consequences:—"Mrs. Ward had gained the confidence of the wife of the victim by assuring her that she could 'bring her husband out all right' if he were placed in her hands. Accordingly the physicians, and all other persons who did not believe in Christian Science, were excluded. From day to day reports were issued that Mr. Lord was doing nicely and would soon be at work again. During this time, a period of five days, the victim was growing worse, and all the symptoms were becoming more aggravated until death terminated the sufferings of the imprisoned patient, on December 14th." Mrs. Ward being prosecuted for manslaughter, "Mrs. Davis, the Christian Science expert from Riversdale, testified that 'science' treated strychnine poisoning, the bite of a rattlesnake, small-pox, cholera and fevers alike. She denied that actual disease could be cured, but said that people only had 'a belief of disease.' She admitted that surgeons were needed in case of broken bones, but said that in the case of the deceased surgery was not admitted by 'science', and that the half or two-thirds of a cup full of pus that had accumulated would, by 'science,' be allowed to remain in his system. The elements of involuntary manslaughter were clearly proven. The Court charged the jury that if they found that the life of deceased had been shortened by reason of the gross carelessness of defendant that she was guilty, even though they might further find that when in his right mind the deceased consented to place his life in the care of the defendant. If the defendant had been a man he would have had no chance of escape. The defendant, however, was a woman; many ladies had stood by her through the entire trial, and had done everything possible to elicit sympathy, and when the jury retired, for fear they might 'have a belief' that George Lord was dead and that

Mrs. Ward was to blame for refusing him relief, a score of the 'scientists' bowed their heads and gave the jury silent treatment during many hours of its deliberation. After remaining out all night the jury finally returned a verdict of not guilty."

BLACKEST ENGLAND.

With the January number of *Relief* is issued a map of England and Wales, strikingly illustrative of the expenditure upon alcoholic stimulants in workhouses during the year 1891, as given in the latest Government return relating to this subject. It is entitled "Blackest England in reference to Workhouse Drink Consumption," and shows each county separately shaded from white to black according to the aggregate average expenditure upon all intoxicants (that is, of the three kinds used, spirits, wine, and malt liquor) per head of inmates in all the workhouses comprised within its area. It also records the total expenditure for a similar purpose throughout the like area. This total divided by the daily average number of inmates of the workhouses throughout the country gives the foregoing rates of expenditure upon intoxicants per head of inmates. It also contains a light and a black list of counties formulated upon the basis of a small and large expenditure upon stimulants, all counties where the rate of expenditure is above the average being in the black list, whilst a similar number of counties where a low rate obtains are placed by their side as a light list, the average rate of expenditure per head of inmates throughout the county being given in each case.—*The National Bulletin*, Jan. 10, 1893.

REMARKABLE DRINK CONSUMPTION.

The one thing that strikes the most casual observer upon glancing at the Workhouse Drink Map, in *Relief*, is the concentration of alcoholic extravagance in one part of England, broadly speaking, that in and around the metropolis. All the counties where the expenditure is above the average adjoin each other, with the exception of Rutland, and that is adjacent to the solid black block of improper drink consumption which extends over the whole of the south and south-eastern counties, practically the lower third of England and Wales. And the remarkable thing about this region of excess is, that it is almost *the same area* that has appeared as being *above the average* in every Government Return *for the last twenty years.*—*The National Bulletin*, Jan. 10, 1893.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—George H. Kidd, M.D., F.R.C.S.I.
General Secretary—W. Thomson, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—Andrew J. Horne, F.R.C.P.I.
Sectional Secretary—F. W. Kidd, M.D.

Friday, December 23, 1892.

The President in the Chair.

Specimens exhibited.

Dr. Smyly showed a specimen of myoma about the size of an adult fist, partly calcified, which he had removed by abdominal section from the uterus of a patient in the Rotunda Hospital. The woman, who was aged forty-two, was incapacitated for work by a total prolapse of the uterus, and it was impossible to relieve the latter without removing the tumour. The growth was imbedded by about one-third of its bulk in the anterior wall of the uterus, close to the left cornu. An elastic ligature having been placed around the organ, the peritoneum, which covered about two-thirds of the tumour, was divided, and the latter enucleated; the cavity left was closed by deep sutures, and the peritoneum trimmed and stitched over it. Both ovaries being found cystic, were removed. The uterus was secured to the abdominal wall by three silk sutures in such a manner that the wound in the uterus was immediately under that in the abdominal wall. Convalescence was delayed by a stitch abscess, which still discharges a little, but with this exception she returned home cured.

Dr. Smyly also exhibited cancerous uterus and right Fallopian tube which he removed on that day week from a patient, fifty-three years of age, in the Rotunda Hospital. She had had two children and one abortion. For eight months she had suffered from pain in the back and right ovarian region, with frequent hæmorrhages. The uterus was movable, but the sound detected a roughened interior and caused hæmorrhage. The curette brought away a quantity of friable matter, apparently cancer. Dr. Earl confirmed this diagnosis by the microscope. The uterus was removed per vaginam, no difficulties being encountered until the cervix had been freed and the left broad ligament divided. It was then impossible to get the uterus out. The right tube was found to be enlarged and adherent, and an attempt to separate it caused violent hæmorrhage. Abdominal section was immediately performed, and the broad ligament clamped, and the uterus removed with part of the tube. The remainder of the tube, which, having been freed from its pelvic attachments by the division of the broad ligament, was still adherent to a coil of small intestine, was brought outside the abdomen and carefully separated. This was followed by smart hæmorrhage, which he finally controlled with perchloride of iron, having failed to do so with suture, pressure with hot sponges and thermo-cautery. He would have resected this portion of gut had the patient's condition permitted a further prolongation of the operation. It was, however, returned into the abdomen, which was cleansed by a stream of hot water and drained per vaginam with iodoform gauze. The abdominal wound was closed and dressed in the ordinary way. She recovered without much shock, and has so far made a good recovery.

The President said that in cases of cancer the difficulty of accurate diagnosis was as to the extent of the cancer. It was only after laparotomy was performed that one really could judge accurately how far the cancer had extended.

Dr. Smyly thought that whenever there was any doubt as to the extent of the cancer it was better not to operate. He was unable to say whether the clamp or ligature was the best.

Dr. A. J. Smith next exhibited a calcified fibroid tumour. He was indebted to Dr. Dempsey for the specimen. The centre of the mass was quite soft, but the outside was almost completely calcified. The chief point of interest was that, as a rule, the degeneration begins in the centre and proceeds outwards, but in this case it was the reverse. They used to be called uterine stones, and in one case he saw one of them mistaken for a child's head.

Dr. Smyly remarked that the tumour which he had exhibited was calcified in a similar manner.

Dr. Glenn showed a child with bones of the head fractured from reckless use of forceps. Patient's cervix was torn off, a strip of one inch diameter lying loose in vagina attached by one end. The forceps were applied by a practitioner and were of the old straight variety, the os being of the size of five shillings. Delivered subsequently in Rotunda by forceps; adherent placenta; child 8 lbs. Transfused with one and a half pints of saline solution with marked temporary benefit, but patient sank gradually and died.

The President said that this was an interesting case, as showing the danger of application of the forceps before the os uteri was sufficiently dilated and without the patient being fully under the anæsthetic. In this case one blade slipped outside the cervix, and what made it more difficult was that it was a primipara of thirty-nine years of age.

Dr. A. J. Smith said the question of rigid os seemed to be wanting in this case. And as for the typical one described in the text-books he had never seen it yet.

Report on Abdominal Sections.

Dr. Alfred Smith read a report on abdominal sections performed by him in the gynæcological wards of St. Vincent's Hospital, Dublin. [It will be found at page 107.]

Dr. Atthill hoped that this paper would give rise to some discussion, as there were several points of interest connected with it. He thought that the disinfection of the instruments in boiling water was one of the safest and best methods. He certainly had not ceased to believe in antiseptics. He thought the use of the calomel purge a very wholesome practice. When given in from 3 to 5 grains it acts with the greatest satisfaction.

Dr. Smyly said the points of especial interest to him were the recurrence of hernia, the cleansing of the peritoneum, the dressing with boracic powder, and the boiling of the instruments. He (Dr. Smyly) came to the conclusion that hernia was the result of suppuration. He did not begrudge the time expended in stitching the different layers if this prevented the hernia. He next referred to a case of dermoid tumour which, on tapping, unfortunately burst through the posterior part, and the matter escaped into the abdomen. He sponged it out as as cleanly as he could, but he regretted that he did not use hot water, as the patient rapidly went to the bad. He thought that the dermoid matter would probably float on the top of the water. He thought drainage on the side a mistake, as the tube does not go to the most dependent places, and the fluid was down in the groin. The powder also seemed to him to be a mistake, because it keeps the surfaces from coming into apposition, and prevents union of the superficial parts of the skin, whereas if you make it perfectly dry it will heal by the first intention. With regard to the disinfection of the instruments, the method he adopts is to sterilise them at a heat of 300°, and before using them they boil them for half an hour in a soda solution, which does not spoil them.

Dr. Parsons asked as to the explanation of the pain in rectal fistula, as it presented all the signs of perforation. He asked if steaming had been applied to the disinfection of the instruments, as bacteriologists have found it the most effective in destroying the spores of the anthrax bacillus.

Dr. Atthill wished to know how steam was superior to boiling water.

Dr. Parsons said it was practically shown in the case of anthrax bacillus. Feathers infected with anthrax bacillus were immersed in boiling water and others were steamed. When these were introduced into animals it was found that the animals contracted the anthrax when the feathers were boiled, whereas the animals escaped when the feathers were steamed.

Dr. Glenn desired to know whether, when the glass tube was retained for three days, there was any difficulty experienced in stitching the wound.

The **President** said a solution of 1 in 500 of the perchloride of mercury was quite sufficient to guard against any septic matter. He then referred to some experiments made by Sir Charles Cameron on vaccine lymph, obtained from the Local Government Board. He used sulphurous acid, and the result was that a high percentage of sulphurous acid destroyed the action of the lymph, but that a low percentage had no effect. They could therefore expose their instruments to a very easy method of disinfection by means of sulphurous acid.

Dr. A. J. Smith, in reply to Dr. Atthill, said he looked upon the carbolic solution as the best aseptic he had at the time. Dr. Smyly found that the hernia was due to suppuration in the sutures, but in his cases there was perfect union, and when he found patients coming back to him with these little herniæ in the incisions, he (Dr. Smith) was quite astonished, especially as there was not even a trace of suppuration. He remembered a case where the contents of a dermoid cyst were spilled and the patient was douched, but she died. On turning up the intestines he found traces of the cysts even after washing out, and the result of washing was to put particles into quarters where one could not get at them. He cleansed them carefully with sponges, and left in a drainage-tube, and the result was most satisfactory. By the aid of iodoform gauze he found that there was nothing left in the cavity, and the fluid did not come down into the flank. The patient always lies against a bolster at the side, and probably this might prevent the fluid coming down into the flank. He was more than glad to be informed of the efficacy of the soda solution for instruments. He thought steaming the latest fad and a very expensive one as well, and he never had any reason to regret the corrosive sublimate solution. In reply to Dr. Glenn, he said there was no difficulty whatever in union of the wounds.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—C. J. Nixon, M.D.

Sectional Secretary—J. B. Story, F.R.C.S.I.

Friday, January 13, 1893.

The **President** in the Chair.

Carcinoma of Male Breast.

Mr. Chance exhibited a specimen of carcinoma which he had removed from the left breast of a man, aged thirty-nine years, in the Mater Misericordiæ Hospital. The patient had no family history of malignant disease. He had received an injury in the same breast four years before. A small lump had resulted which gave no trouble until two months before operation. In the lower and outer quadrant of the breast was found an ill-defined and stony hard tumour, about the size of a hen's egg. Over it was a small ulcer with irregular surface and raised infiltrated and everted edges. Pig-skin appearance was well marked, and six or eight small, red, shot-like papules were to be seen. The nipple was retracted, and the tumour fixed to the pectoral muscle. There was a large hard mass in the axilla, though the arm was neither œdematous nor painful. The tumour was removed on the 29th of November. The axillary glands gave much trouble, and it was necessary to ligature a portion of the axillary vein. The patient left hospital within three weeks with the wound entirely healed. Dr. M'Weeney had examined the growth and reported:—

Typical scirrhus. Stroma everywhere well developed. Cell groups of the usual character. Bands of fibrous tissue appear to originate in or near the corium, and radiate deeply into the tumour. The puckering and retraction about the nipple is due to the contraction of these bands. The most remarkable feature of the growth is the infiltration of the cutis vera with nodules of cancer cells. In one place the epithelial coating has lost its vitality, and a small ulcer has resulted. Many mitoses are observable in this region, showing that the growth was steadily advancing towards the periphery.

Mr. M'Ardle said that Mr. Chance's communication confirmed him in his opinion that cancer of the male breast is rarely a primary affection. The great wasting of this man had pointed to this. In two cases of cancer of male breast in which he operated the patients died within eight months.

Mr. Chance said that the patient had been carefully examined and no other deposits could be found.

Fracture of Skull, with Partial Loss of Temporo-sphenoidal Lobes.

Mr. M'Ardle exhibited portions of the skull removed from a man who sustained an extensive comminuted and fissured fracture of the skull. The fissure extended across the base and upwards to the left side, running through the left petrous portion of the temporal and upwards into left parietal. On the right side the entire temporal, parts of parietal and occipital, were driven in, forming a wedge which caused the fissuring on the opposite side. The petrous portion was broken into several pieces. On both sides fracture passed through the lateral sinus, outside the position of the membrana tympani, and so allowed free hæmorrhage from the ears. Notwithstanding the extent of the fracture, the following points were noted:—*a.* There was no hæmorrhage from the nose or throat. *b.* The pulse was good until the end of the case.

unless during hæmorrhage. *c.* Respiration did not become stertorous until near the end. *d.* The extent of even the comminuted fracture of the vertex was not noticed until after death. Mr. M'Ardle laid stress on this point, and mentioned several cases in which he had observed the subsidence of the skull after death, and pointed out that retention of normal conformation of the skull is no proof of absence of even extensive fracture. In this case the atlas was broken at the junction of anterior arch with the lateral mass. The posterior arch was completed at its centre only by the slightest amount of bone tissue—a condition which allowed fracture to occur easily. Brain substance escaped through both ears, and on examination, parts of the inferior temporo-sphenoidal lobe and of the lingual and fusiform lobules.

Dr. C. F. Moore said that at the time of the accident he inquired had the patient broken his neck.

Sir William Stokes said he saw the patient after death. He thought it very strange that the man had no respiratory symptoms till within a few minutes of his death.

Dr. Nixon remarked that, considering the atlas was also fractured, this was very noteworthy.

Mr. M'Ardle said that up to within 20 minutes of his death his pulse did not exceed 72.

Caries of Spine.

Mr. Swan said this case presented some remarkable clinical as well as pathological features. A girl, aged seventeen, came into hospital with partial paraplegia, marked muscular inco-ordinating movements of the body, and hyperæsthesia and unilateral spasm. The deep reflexes were exaggerated; an abscess had discharged behind, on a level with the two lower dorsal vertebræ. From this a portion of the 12th rib and an adjoining piece of vertebral body was evacuated. Soon after complete paraplegia supervened, with loss of the deep and tonic reflexes; gangrene of skin over projecting points, and ultimately death from exhaustion. In the autopsy investigation he was assisted by Messrs. Chance and M'Weeney. The progress of this case was marked by a series of events, which occurred in the following order:—1st. A focus of very acute tubercular cysts, involving 11th and 12th vertebræ, followed by an external pachymeningitis, and probably a myelitis. 2nd. A complete paraplegia, due to an invasion of the perimeningeal areolar tissue with pus, and the subsequent liquefaction and breaking down of the cord and its meninges occurring during the last 17 years. Potts' disease followed by paraplegia is rare. Mr. Swan has, from records of 211 cases, only seen it as an accompaniment of this kind of disease below the 6th dorsal vertebræ in two other instances of a somewhat similar character. Of those 211 cases there were 52 paraplegics and 49 had disease either in the cervical, cervico-dorsal, or upper dorsal segment. The *post mortem* revealed not only the impossibility of drainage but the futility of any operative procedure.

Dr. Nixon remarked that the case illustrated that motor affection in paralysis appeared before sensory affections. Some years ago he had an interesting case of caries of the spine in a girl of sixteen. She showed symptoms of myelitis compression. The paralysis was so complete that all control of the bladder and rectum was lost. The patient was put up in a jacket and gradually got quite well. When so she got an attack of small-pox and died. The autopsy showed disease of one or two vertebræ, but the cord was quite healthy.

Mr. Swan said he wished to support Dr. Nixon in stating that the prognosis was not necessarily very bad in cases where control of bladder and rectum was lost. He thought the great majority of cases recovered.

Hydronephrosis and Obstructive Dilatation of Kidney.

Dr. Conolly Norman read a paper on hydronephrosis, and exhibited a specimen in which the right kidney presented the appearance of a large multilocular cyst. To the naked eye no trace of kidney structure was visible. The external walls of the loculi, as well as the walls dividing them from each other, seemed to consist entirely of strong fibrous tissue. Nevertheless, under the microscope uriniferous tubules, and even a few atrophied glomeruli, could be made out lying between broad layers of connective tissue. The microscopic appearances led the writer to think that the case was one of true hydronephrosis, and not of congenital cystic kidney. The ureter, which was dilated in the upper part, and particularly about the middle of its course, was entirely occluded below, and the trigonum presented at its right corner a slight depression, but no trace of an aperture. There was no evident reason for the occlusion of the ureter. The writer drew attention to the condition of the internal surface of the compound sac which formed the kidney. It was pleated with numerous minute rugæ running irregularly, and giving it a peculiar finely-netted appearance. In microscopic section these rugæ were seen to be elevations composed chiefly of white fibrous tissue covered with a layer of minute round granular masses, probably debris of epithelial or inflammatory cells. Dr. Norman showed a section from a case of advanced interstitial nephritis, in which some of the tubules were filled with a similar material. He also exhibited the urinary organs in a case of vesical calculus, and in a case of papillary cancer of the bladder which obstructed the left ureter and entirely occluded the right, and he contrasted the smooth interior surfaces of the kidney in these cases with the rough appearance presented in the first case. He pointed out in the cancer specimen that the new growth seemed to have originated close to the point where the right ureter, double throughout the rest of its course, had united to enter the bladder. Finally, he showed the urinary organs in a case of stricture where there was an enormously thickened bladder and somewhat dilated ureters, but the pelvis of the kidney was not sacculated, and these organs were much contracted from extreme cirrhosis. He suggested that the cirrhotic affection was a chronic state existing before the stricture, and that the gradual diminution of the secreting power of the kidney prevented the urinary pressure in the kidney rising to a destructive amount.

Dr. Nixon said that the first specimen shown corresponded exactly to the description of Raye. The complete absence of renal substance is very striking, as well as the appearance of the dilatation. The tissue looks like granulation tissue to the naked eye. The fusiform condition of the ureter is also interesting. Could the constrictions be due to irritation set up by delay of the stone in passing down the ureter.

Dr. Norman said that this suggestion, as applied to the first case, was very ingenious.

Movable Kidney.

Dr. Franks laid a case of true floating kidney before the Section. A woman, aged thirty-two, had influenza in Dec., 1891. She subsequently developed paroxysmal attacks of abdominal pain, ending always in vomiting. A freely-movable kidney was discovered to the right of the umbilicus and below it, on Sept. 28th, 1892. The gastric crises were believed by him to be due to this. The stomach was dilated. Laparotomy in the right linea semilunaris was performed on Oct. 4th. The kidney was discovered loose in the abdomen; it was devoid of any fatty envelope. It was completely covered with peritoneum, which was reflected off it at the hilum, and thence passed along the vessels, covering them anteriorly and posteriorly, back to the spine. The peritoneum thus formed a complete and perfect mesonephron. A peritoneal band bound the upper half of the concave border firmly to the duodenum; when the kidney descended into the abdomen it was found that it dragged upon the duodenum to such an extent as to kink it, and almost completely to close its lumen. This was evidently the cause of the gastric crises and of the dilatation of the stomach. He (Mr. Franks) fixed the kidney in the loin by means of a strong silk suture passed through the posterior surface of the organ, the ends of which transfixed the loin, and were firmly tied behind beneath the skin. The patient recovered completely, and has since had no return of the pain and vomiting.

Mr. M'Ardle said that in operations for a movable kidney it was often better to operate by making an incision in the anterior abdominal wall.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—HUMPHREY J. BROOMFIELD, F.R.C.S.I.
Sectional Secretary—A. BIRMINGHAM, M.B.

Friday, Jan. 6, 1893.

The PRESIDENT in the Chair.

Section showing the True Position of Ovary.

PROFESSOR CUNNINGHAM exhibited a section through the pelvis of a child, which showed the true position of the ovary. As the members of the Section were aware, there was much discussion as to the true position of the ovary. DR. CUNNINGHAM referred to the views of Hasse, Kölliker, and Schultze, and said that in the specimen which he exhibited the ovary was vertical, with its long axis running up and down, the surfaces looking in and out, and the borders looking backward and forward—the condition described as typical by His and Waldeyer. The Fallopian tube crosses the pelvis, and comes into relation with the lower end of the ovary. It passed up to the summit along the anterior margin, and then turns over and down along the posterior border.

PROFESSOR BIRMINGHAM showed a good example of hour-glass contraction of the stomach. He said it was not pathological in any sense, and there was no trace of scars or cicatrices. He also exhibited a case of absence of the ileo-cæcal valve. A mere rudiment of one of the flaps was present. Such a condition would explain the passage of enemata into the small intestine, which it is well known sometimes takes place.

DR. CUNNINGHAM said that in the museum at Glasgow University there were one or more specimens of a similar kind, placed there by W. Hunter. He had the specimens labelled "Absence of the ileo-cæcal valve, a condition of the intestine which explains the vomiting of clysters."

DR. BALL mentioned a case under his own care where an enema of tupentine was given, and within a quarter of an hour the patient vomited fluid smelling of turpentine. The time was too short for it to be absorbed from the intestinal canal, and he had not the slightest doubt that it passed the ileo-cæcal valve. He thought that even when the valve is perfectly formed fluid may pass into the small intestine when the large bowel is distended by an enema.

PROFESSOR BIRMINGHAM thought that the probability of fluid passing back into the small intestine is less when the quantity of fluid is large, as the valve is then more tense.

Delimitation of the Abdominal Cavity.

PROFESSOR CUNNINGHAM read a paper on the "Delimitation of the Abdominal Cavity," illustrating his remarks by means of lantern slides and models. He suggested that the two horizontal planes of subdivision should correspond to lines on the surface drawn between (*a*), the most dependent points of the tenth costal arches; and (*b*), the tubercles which jut out from the outer lips of the iliac crests, about two inches behind the anterior superior spines of the iliac bones. The latter points correspond with the highest part of the iliac crest as seen from the front, and mark the spot on each side where the outline of the flank meets the ilium. He advocated the retention of the middle Poupart planes of subdivision. Although fully alive to the objections which could be urged against these planes, he considered them preferable to the oblique or curved lines which it had been proposed to substitute in place of them. He demonstrated the topographical anatomy of the abdomen of an adult male, and a female child of two years old. In each case a series of seven sagittal sections had been made through the abdomen, and tracings had been taken of both sides of the slabs obtained. Three of the sections were made in the mesial plane and in the right and left middle Poupart planes respectively. Each of the four slabs thus obtained was still further divided into two. The position of the viscera was, therefore, in the two subjects completely exposed with reference to the proposed planes of abdominal delimitation. This part of the paper was illustrated by lantern slides of the different tracings, and also by models of the liver, kidney, &c.

The PRESIDENT said that they were all very grateful for the able and interesting paper which Professor Cunningham had brought forward. Some of the statements were very novel to him, considering the accounts in the text-books. He referred especially to the position of the kidney and other organs. He was always sceptical as to the ease with which organs such as the ovary, &c., could be manipulated. Another peculiar fact was that, according to Dr. Cunningham, the kidney is seldom in the lumbar region, although they were all accustomed to consider it as occupying that position. He would like to hear the opinions of some of the surgeons on this subject.

DR. BALL said that, speaking as a surgeon he desired to convey his thanks to Dr. Cunningham for the very laborious and able investigation which he has made on the topography of the abdominal viscera. He said that likewise his labours on the topography of the brain have added very much indeed to the ease with which surgeons can localise cerebral disease. He thought that there were greater difficulties in applying accurate mathematical methods of delimitation to the abdominal cavity than to either the cranium or thorax, and pathological changes have a greater scope for producing displacements. He next referred to a case where the upper part of the kidney was found resting on the crest of the ilium, and a space of an inch separated it from the liver. So that in the practice of surgery they must not rely too rigidly on exact limitations. He remembered Professor Cunningham himself told him some time ago, that after all his investigations and all his methods of measurement, he (Dr. Cunningham) would rather trust to his artistic faculties, and to his power of placing his finger directly on a certain convolution of the brain than to any direct measurements. With regard to the abdomen, he thought it was more by the relation of one part to all the surrounding structures that we come to define the position of the viscera, and in that way we can arrive at a definite conclusion rather than by trusting to mathematical lines from fixed points.

DR. MYLES agreed with Dr. Ball that it would be very difficult to apply many of those rules to surgery. With regard to the kidney, he had found that in operations on the dead subject the kidney can always be reached by an incision through the linea semilunaris, and he had experienced no difficulty in getting the liver out of the way. He next referred to a case of injury where the small intestine was ruptured and the vena cava torn across, but the duodenum escaped. He found it difficult to conceive how the vena cava could be ruptured and the fixed viscus escape. He regretted that Dr. Cunningham has not yet seen his way to publish a book on frozen sections, as it is by means of these that true anatomy is learnt.

PROF. BIRMINGHAM was anxious to hear the opinions of the surgeons on the lines proposed by Prof. Cunningham for the delimitation of the abdomen. He always thought that the two old horizontal lines were faulty, inasmuch as they came too close together, and, as Professor Cunningham had shown, the middle zone was occasionally reduced to nothing. His own opinion was that if they are to have two horizontal lines those of Prof. Cunningham are by much the best. With regard to the outer margin of the rectus as a limiting line, he thought it not at all as satisfactory as the mid-Poupart line. The margin of the rectus is very variable, and at the lower part of the abdominal cavity the two recti come so close together that the middle region between them would be reduced to a very small size. Besides, to find the true contents of the various regions frozen sections must be made, and it would be found impossible to carry sections along the margins of the recti. Lastly, he thought with Prof. Cunningham that it would be a great mistake to give up the old division of the abdominal cavity into true pelvis and abdomen proper. There was no region of the cavity so distinctly specialised and so naturally marked off from the rest as the true pelvis.

PROF. CUNNINGHAM, in reply, said that the discussion was most gratifying to him. He agreed with Dr. Ball that there were no two abdomens alike. He had attempted to bring out the topography of one abdomen only, and perhaps he spoke a little dogmatically in regard to the position of the various organs. He believed the kidney was more movable than it is supposed to be. He did not think the lines proposed would be of very much use to the surgeon, but anatomists require them.

The Section then adjourned.

SECTION OF SURGERY.

President—**Edward Hamilton**, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—**R. L. Swan**, F.R.C.S.I.

Friday, Jan. 20, 1893.

The **President** in the Chair.

Splints.

Dr. Hercules M'Donnell read his paper on splints, showing a modification of Liston's long splint, and of the box splints for application to fractures of the leg, and claimed, from a long experience, advantages from those splints.

Mr. Thomson said that he preferred the simpler and less expensive plaster splint to any elaborate appliance.

Mr. Lentaigne coincided with Mr. Thomson in condemning the box splint.

Dr. M'Donnell, in reply, admitted the efficiency of the plaster splint, but said that cases arose in which it could not be applied.

Operative Treatment of Spinal Neuralgia.

Mr. Thornley Stoker then read his paper upon this subject. [It will appear at length in the next (March) number of this Journal.]

Mr. Swan thought that the Academy owed a debt to Mr. Stoker for his communication. It was distinctly a new subject, and such operations had not, so far as he was aware, been often performed in Ireland. He confessed, however, that it appeared to him that until the seat of the lesion in the nerve could be accurately localised it was to some extent working in the dark to remove any part of it on the chance of curing a neuralgia. Perhaps experimental physiologists might soon be able to diagnosticate the exact focus.

Mr. Brooks had a similar case under his own care. It was that of a man, forty-eight years of age, whose superior maxillary division of the 5th was affected for over seven years. He had tried a good many remedies with only transient relief. He found the bony wall much thickened and denser than usually met with in the dead subject. This, he thought, bore upon the observation made by Mr. Swan as to the localisation of the seat of disease. Here the pain was localised in the terminal branches of the nerve about the incisor and canine teeth which are supplied by the anterior dental nerve. Consequently it was evident that the lesion of nerve did not go back to the foramen rotundum. He believed that it was impossible to remove the entire Cæsarean ganglion without opening the cavernous sinus.

MR. FRANKS did not think, in stretching a nerve, it made much difference whether the nerve was sensory alone or sensory and motor mixed. He had seen great benefit from stretching the sciatic nerve in the manner introduced by Billroth.

MR. STOKER, in reply, said he was greatly indebted for those interesting remarks. He admitted the importance of diagnosticating accurately, but he did not think the situation of pain a definite indication of the portion of nerve engaged. He did not think there was any danger in removing the nerve behind the spheno-palatine ganglion. He did not think that Mr. Rose contended that he had removed the entire Cæsarean ganglion, which, as it was done bit by bit, was impossible to tell.

THE REFRIGERATION OF CORPSES.

MR. J. LAWRENCE HAMILTON, M.R.C.S. Eng., of Brighton, writes as follows in the *Western Morning News* of Jan. 4, 1893:—"In 1880, Dr. Brouardel induced the authorities of the Morgue (or the Paris mortuary connected with the medico-legal department of the local coroner's courts) to establish refrigerator apparatus in order to temporarily preserve corpses discovered in the Seine or elsewhere for subsequent identification. By refrigeration the corpses are rendered imperishable for any desired time, and should putrefaction have commenced, it is arrested. The corpses are first cooled to a temperature of 15 degrees C. below the freezing point of water—a temperature which in ten hours will penetrate through even the most bulky human body. These frozen corpses are as hard to the touch as a piece of wood. When frozen the corpses are removed to the public inspection room, and kept at about a temperature of 4 degrees C. below the freezing point of water in suitable compartments furnished with a double glass lid at one extremity in order that the features may be seen. These cases are all the more important as it is found that currents of air cause a brown parchment-like appearance of the face, and therefore render identification of the corpse difficult or impossible. Should a *post mortem* examination be required, the body is thawed to a temperature between 15 degrees C. and 20 C. The autopsy finished, the corpse, if necessary, can be again refrigerated. The refrigerator apparatus selected by the municipal authorities of Paris was supplied by Messrs. Rouart, who employ their own modification of the condensed ammonia and chloride of calcium process, worked by a one-horse power motor."

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, December 31, 1892.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Dec. 10.	Dec. 17.	Dec. 24.	Dec. 31.		Dec. 10.	Dec. 17.	Dec. 24.	Dec. 31
Armagh -	14·0	35·1	28·0	42·1	Limerick -	19·6	11·2	37·9	23·9
Belfast -	24·4	25·6	23·0	25·0	Lisburn -	17·0	25·7	34·1	25·7
Cork -	15·9	31·1	24·2	25·6	Londonderry	18·8	26·7	17·3	14·1
Drogheda	17·6	30·7	57·1	43·9	Lurgan -	18·2	31·9	31·9	45·6
Dublin -	23·0	24·0	26·0	32·8	Newry -	16·1	28·2	12·1	8·1
Dundalk -	12·6	12·6	16·8	4·2	Sligo -	10·2	40·6	5·1	15·2
Galway -	18·9	56·7	15·1	30·2	Waterford -	22·5	30·0	32·5	20·0
Kilkenny	37·8	14·2	9·4	33·0	Wexford -	22·6	13·5	22·6	31·6

In the week ending Saturday, December 10, 1892, the mortality in thirty-three large English towns, including London (in which the rate was 17·7), was equal to an average annual death-rate of 19·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·5 per 1,000. In Glasgow the rate was 25·4, and in Edinburgh it was 25·3.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in eleven of the districts to 9·4 in Kilkenny—the 8 deaths from all causes registered in that district comprising 2 returned under the head of simple continued and ill-defined fever. Among the 122 deaths from all causes registered in Belfast are 3 from scarlatina, 1 from typhus, 1 from whooping-cough, 4 from diphtheria, 5 from enteric fever, and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 147—64 boys and 83 girls; and the registered deaths to 161—80 males and 81 females.

The deaths, which are 43 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24·0 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 23·0 per 1,000. During the forty-nine weeks of the year 1892, ending with Saturday, December 10, the death-rate averaged 29·4, and was 2·1 over the mean rate in the corresponding period of the ten years 1882–1891.

The number of deaths from zymotic diseases registered was 13, being 12 below the average for the corresponding week of the last ten years and 4 under the number for the week ended December 3. The 13 deaths comprise 1 from scarlet fever (scarlatina), 1 from influenza, 1 from whooping-cough, 2 from enteric fever, 3 from diarrhœa, and 1 from erysipelas.

Twenty-six cases of enteric fever were admitted to hospital, being 6 over the admissions for the preceding week: 20 enteric fever patients were discharged, and 124 remained under treatment on Saturday, being 6 over the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 1 case of small-pox, 3 cases of measles, 3 of scarlatina, and 2 of typhus: 2 cases of small-pox, 9 of measles, 29 of scarlatina, and 2 of typhus remained under treatment in hospital on Saturday.

Thirty-nine deaths from diseases of the respiratory system were registered, being 4 over the number for the preceding week, but 11 under the average for the 49th week of the last ten years. They comprised 23 from bronchitis and 12 from pneumonia or inflammation of the lungs.

In the week ending Saturday, December 17, the mortality in thirty-three large English towns, including London (in which the rate was 19·4), was equal to an average annual death-rate of 20·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 25·5 per 1,000. In Glasgow the rate was 24·8, and in Edinburgh it was 28·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 25·4 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from

0·0 in Dundalk, Lisburn, Wexford, Kilkenny, and Armagh, to 20·3 in Sligo—the 8 deaths from all causes registered in the last-named district comprising 2 from typhus and 2 from diarrhœa. Among the 128 deaths from all causes registered in Belfast are 2 from measles, 1 from whooping-cough, 1 from diphtheria, 1 from simple-continued fever, 3 from enteric fever, and 3 from diarrhœa. The 45 deaths in Cork comprise 1 from whooping-cough and 3 from diarrhœa. Two of the 17 deaths in Londonderry resulted from whooping-cough. Of the 7 deaths in Newry 2 were from diarrhœa.

In the Dublin Registration District the registered births amounted to 191—99 boys and 92 girls; and the registered deaths to 167—85 males and 82 females.

The deaths, which are 45 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24·9 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 24·0 per 1,000. During the first fifty weeks of the year 1892 the death-rate averaged 29·3, and was 1·9 over the mean rate in the corresponding period of the ten years 1882–1891.

Sixteen deaths from zymotic diseases were registered, being 3 over the low number for the preceding week, but 9 under the average for the fiftieth week of the last ten years. They comprise 3 from scarlet fever (scarlatina), 1 from diphtheria, 4 from enteric fever, and 2 from diarrhœa.

Thirty-three cases of enteric fever were admitted to hospital, being 7 over the number of admissions for the preceding week: 16 enteric fever patients were discharged, 2 died, and 139 remained under treatment on Saturday, being 15 over the number in hospital on Saturday, December 10.

The hospital admissions for the week include, also, 6 cases of measles, 3 of scarlatina, and 2 of typhus: 15 cases of measles, 22 of scarlatina, and 4 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 35 for the week ended December 3 to 39 for the following week, fell to 36, or 20 under the average for the corresponding week of the last ten years. They comprised 20 from bronchitis, 13 from pneumonia or inflammation of the lungs, and 1 from croup.

In the week ending Saturday, December 24, the mortality in thirty-three large English towns, including London (in which the rate was 19·7), was equal to an average annual death-rate of 20·0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·0 per 1,000. In Glasgow the rate was 22·1, and in Edinburgh it was 28·9.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 24·9 per 1,000 of the population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·0 per 1,000, the rates varying from 0·0 in ten of the districts to 4·7 in Kilkenny—1 of the 2 deaths from all causes registered in that district being from diarrhœa. Among the 115 deaths from all causes registered in Belfast are 2 from scarlatina, 1 from typhus, 3 from whooping-cough, 1 from enteric fever, and 5 from diarrhœa. The 35 deaths in Cork comprise 1 from each of the following diseases, viz.:—measles, typhus, whooping-cough, diphtheria, enteric fever, and diarrhœa.

In the Dublin Registration District the registered births amounted to 147—82 boys and 65 girls; and the registered deaths to 179—89 males and 90 females.

The deaths, which are 30 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·7 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 26·0 per 1,000. During the fifty-one weeks of the year 1892 ending with Saturday, December 24, the death-rate averaged 29·2, and was 1·7 over the mean rate in the corresponding period of the ten years 1882-1891.

Twenty-three deaths from zymotic diseases were registered, being 1 in excess of the average for the corresponding week of the last ten years, and 7 over the number for the week ended December 17. They comprise 2 from measles, 1 from scarlet fever (scarlatina), 1 from typhus, 1 from whooping-cough, 8 from enteric fever, and 1 from dysentery.

Thirty-seven cases of enteric fever were admitted to hospital against 33 admissions for the preceding week: 16 enteric fever patients were discharged, 2 died, and 158 remained under treatment on Saturday, being 19 over the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 3 cases of measles, 3 of scarlatina, and 1 of typhus: 12 cases of measles, 19 of scarlatina, and 2 of typhus remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered during the week was 32, being 4 under the number for the preceding week, and 16 below the average for the 51st week of the last ten years. The 32 deaths comprised 24 from bronchitis and 4 from pneumonia or inflammation of the lungs.

In the week ending Saturday, December 31, the mortality in thirty-three large English towns, including London (in which the rate was 22·4), was equal to an average annual death-rate of 24·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 28·5 per 1,000. In Glasgow the rate was 30·9, and in Edinburgh it was 24·4.

The average annual death-rate in the sixteen principal town districts of Ireland was 27·8 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in seven of the districts to 8·8 in Drogheda—the 10 deaths from all causes registered in that district comprising 2 from measles. Among the 125 deaths from all causes registered in Belfast are 1 from typhus, 2 from whooping-cough, 1 from simple continued fever, 2 from enteric fever, and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 192—83 boys and 109 girls; and the registered deaths to 224—129 males and 95 females.

The deaths, which are 8 over the average number for the corresponding week of the last ten years 1882–1891, represent an annual rate of mortality of 33·4 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 32·8 per 1,000. During the fifty-two weeks of the year 1892 the death-rate averaged 29·3, and was 1·7 over the mean rate for the ten years 1882–1891.

Zymotic diseases caused 24 of the registered deaths, being 1 over the number of deaths from those diseases in the preceding week, and also 1 in excess of the average for the fifty-second week of the ten years 1882–1891. The 24 deaths comprise 1 from measles, 1 from influenza, 2 from whooping-cough, 4 from enteric fever, 4 from diarrhœa, and 1 from dysentery.

The number of cases of enteric fever admitted to hospital was 31, being a decline of 6 as compared with the admissions for the preceding week: 26 enteric fever patients were discharged, 2 died, and 161 remained under treatment on Saturday, being 3 over the number in hospital on Saturday, December 24.

The hospital admissions for the week include, also, 3 cases of scarlatina, but no cases of either measles or typhus were received, Fifteen cases of scarlatina, 9 of measles, and 2 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 36 for the week ended December 17, to 32 for the following week, rose to 65, or 9 over the average for the corresponding week of the ten years 1882–1891. The 65 deaths comprised 41 from bronchitis, 15 from pneumonia or inflammation of the lungs, and 2 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N. Long.* 6° 15′ *W., for the Month of December,* 1892.

Mean Height of Barometer, - - -	29·941 inches.
Maximal Height of Barometer (on 8th, at 9 a.m.), -	30·325 „
Minimal Height of Barometer (on 11th, at 2 p.m.), -	29·344 „
Mean Dry-bulb Temperature, - - -	38·9°.
Mean Wet-bulb Temperature, - - -	37·4°.
Mean Dew-point Temperature, - - -	35·0°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	·210 inch.
Mean Humidity, - - - - -	86·1 per cent.
Highest Temperature in Shade (on 18th), - -	55·5°.
Lowest Temperature in Shade (on 27th & 28th), -	21·9°.
Lowest Temperature on Grass (Radiation) (on 28th),	16·5°.
Mean Amount of Cloud, - - - -	58·6 per cent.
Rainfall (on 10 days), - - - -	·795 inch.
Greatest Daily Rainfall (on 6th), - - -	·180 inch.
General Directions of Wind, - - -	W., S.S.E., S.W.

Remarks.

A generally cold, dry, breezy month. Two periods of severely cold weather were separated from each other by a singularly mild and even warm spell extending from the 14th to the 22nd inclusive. The cold weather in the earlier part of the month came from the northwestward and was accompanied by a good deal of snow and hail. That at the close of the month spread westwards from the Continent to the British Isles, and was accompanied by strong southeasterly winds and unusually dry weather. The rainfall of the whole month (·795 of an inch) was scarcely one-third of the average. No serious gales were felt, and calms with fog prevailed during the frosty spells at the beginning and end of the month.

In Dublin the arithmetical mean temperature (39·6°) was decidedly below the average (41·3°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 38·9°. In the twenty-seven years ending with 1891, December was coldest in 1878 (M. T. = 32·8°) and in 1874 (M.T. = 36·8°), and warmest in 1865 (M.T. = 46·2°). In 1886 the M. T. was as low as 37·9°; in the year 1879 (the "cold year") it was also 37·9°. In 1887 the M.T. was 39·9°; in 1888 it was 43·6°; in 1889 it was 43·8°; in 1890 it was 39·2°; and in 1891, it was 43·0°.

The mean height of the barometer was 29·941 inches, or 0·066 inch above the corrected average value for December—namely, 29·875 inches.

The mercury rose to 30·325 inches at 9 a.m. of the 8th, and fell to 29·344 inches at 2 p.m. of the 11th. The observed range of atmospherical pressure was, therefore, 0·981 inch—that is, a little less than one inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 38·9°, or as much as 7·2° below the value for November, and 5·0° below that for October, 1892. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·52), the value was 39·7°, or 1·8° below the average mean temperature for December, calculated in the same way, in the twenty-five years, 1865–89, inclusive (41·5°). The arithmetical mean of the maximal and minimal readings was 39·6°, compared with a twenty-five years' average of 41·3°. On the 18th, the thermometer in the screen rose to 55·5°—wind, S.W.; on the 27th and 28th the temperature fell to 21·9° in the screen—wind, calm. The minimum on the grass was 16·5° on the 28th. There were 14 days of frost in the screen and 20 days of frost on the grass.

The rainfall was only ·795 of an inch, distributed over only 10 days. The average rainfall for December in the twenty-five years, 1865–89, was 2·404 inches, and the average number of rainy days was 16·9. The rainfall, therefore, and the rainy days were decidedly below the average. In 1876 the rainfall in December was very large—7·566 inches on 22 days. In 1872, 4·932 inches fell on as many as 24 days; and in 1868, (which was otherwise a fine and dry year) 4·749 inches fell on as many as 27 days. On the other hand, in 1867, only ·771 of an inch was measured on 13 days; and in 1871 the December rainfall was only ·797 of an inch on 15 days. In 1885, only ·742 of an inch of rain was measured on but 10 days, but in 1886 the rainfall was 3·348 inches, distributed over as many as 21 days. In 1887 (the "dry year"), the rainfall was 1·223 inches on 19 days; in 1888, it was 2·911 inches on 17 days; in 1889, 1·554 inches fell on 15 days; in 1890, 1·856 inches on 11 days, and in 1891 3·299 inches on 21 days.

A lunar halo appeared on the 31st. High winds were noted on 15 days, but attained the force of a gale on only 2 occasions—the 11th and the 23rd. The atmosphere was more or less foggy in Dublin on the 2nd, 7th, 10th, 20th, 25th, 26th, 27th, and 28th. Snow or sleet fell on the 3rd, 4th, 5th, and 24th. Hail fell on the 2nd, 3rd, and 5th. There were "silver thaws" on the 6th and 29th.

In Scotland December opened with intense but local cold—the thermometer at 8 a.m. of the 1st marking 18° in the screen at Wick, where the minimum had been 13°. At the same time temperature was about 40° higher in the South of Ireland (53° at Valentia Island and 52° at Roche's Point, Co. Cork); even in London it rose to 50° on this day. Calm and fog with frost occurred in Dublin on the morning of Friday, the 2nd, but in the afternoon the weather changed and hail fell at night.

On Saturday there were showers of hail, sleet, and snow; so that the period closed with winter fully established.

A spell of very cold winterly weather prevailed during the week ended Saturday, the 10th. Three large areas of low pressure, as well as several secondary or subsidiary depressions, travelled southeastwards across the Btitish Islands and North Sea to the Continent during the week. In consequence N.W., N., and N.E. winds prevailed, and there were frequent falls of cold rain or showers of sleet or snow and hail. On Sunday morning, the 4th, the barometer was below 29 inches in the Shetlands, and cold N.W. winds were blowing in all parts of the United Kingdom, accompanied by falls of snow or sleet. In Dublin the ground was white with snow from this day until the following Thursday. By 8 a.m. of Monday the centre of the depression (which was slowly filling up) lay over the extreme S.W. of Norway. Sharp frost prevailed, except at some southwestern Atlantic stations, such as Valentia Island, Scilly, and Jersey, and along the Atlantic seaboard of France. On Tuesday a wave of relative warmth spread quickly southeastwards across the British Islands, causing a "silver thaw." Next day temperature gave way. On Thursday morning an anticyclone, with the barometer above 30·40 inches was found off the S.W. of Ireland; but during the succeeding night a depression passed southeastwards across Great Britain so quickly that its centre had travelled from the Hebrides to Kent between 6 p.m. of Thursday and 8 a.m. of Friday. Rain or sleet fell generally in connection with this disturbance, but the sky soon cleared and frost returned. On Saturday another depression arrived from N.W., causing dull, raw, damp weather and a moderate rainfall. In Dublin the mean height of the barometer was 29·967 inches, pressure ranging from 30·325 inches at 9 a.m. of Thursday (wind, W.), to 29·558 inches at 9 p.m. of Saturday (wind, W.S.W.). The corrected mean temperature was 35·1°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 34·0°. On Monday the thermometer fell to 27·5°, and on Saturday it rose to 47·6° in the screen. The rainfall was ·291 inch, on four days, ·180 inch being measured on Thursday. The prevailing winds were N.W. and W.

A marked advance in temperature after Tuesday, and the substitution of S.W. for N.W. winds, were the chief characteristics of the week ended Saturday, the 17th. The barometer was throughout low to the northward of the British Islands, relatively high and sometimes anticyclonic—as on Wednesday and Friday—over France. Hence the winds were westerly—at first, northwesterly; afterwards, southwesterly. On Sunday a deep depression was found off the north of Scotland, where the barometer sank below 29 inches (28·92 inches in the Hebrides at 8 a.m.). In Dublin the wind freshened to a moderate gale during the forenoon. Bright cold weather held throughout Monday, but on Tuesday cirriform cloud overspread the sky from N.W., and rain fell heavily towards night.

Next morning temperature exceeded 50° over the greater part of Ireland, and this increase of warmth subsequently became general, so that on Thursday the thermometer rose to between 50° and 55° all over Ireland and England. In Scotland, however, the maximum remained well within the "forties." The last two days of the week were open and breezy, with a drier atmosphere than of late. In Dublin the mean height of the barometer was 29·902 inches, pressure varying between 29·344 inches at 2 p.m. of Sunday (wind, W.N.W.) and 30·224 inches in the night of the 15th–16th (wind, W.S.W.). The corrected mean temperature was 44·4°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 44·3°. On Tuesday the thermometer in the screen fell to 31·9°, on Wednesday it rose to 53·8°. The rainfall was ·209 inch on three days, ·169 inch being measured on Tuesday. The prevailing winds were westerly (N.W. to S.W.).

At first singularly mild and open, the weather gradually became cold and bleak during the week ended Saturday, the 24th. No frost was, however, felt near Dublin or indeed in Ireland at large—one reason being the remarkable prevalence of cloud, which in Dublin amounted to 92 per cent. on the average at 9 a.m. and 9 p.m. During the earlier part of the week the wind was southwesterly, Ireland being on the borderland between an anticyclone which lay over France and Germany, and two deep depressions which travelled in rapid succession northeastwards across the Norwegian Sea, Norway, and Lapland. At 8 a m. of Sunday, atmospherical pressure ranged from 30·55 inches at Lyons (therm. 26°) to 28·69 at Bodö in Norway (therm. 39°). On this day the shade thermometer rose to 55·5° in Dublin and to 57° at Nairn, in the N.E. of Scotland. On Tuesday morning a tongue of high pressure stretched northwards from France across Great Britain to the Shetland Islands. The wind consequently backed in Ireland to S. and finally to S.E., and temperature began to fall. On Thursday a depression approached the S.W. of Ireland from the Atlantic, and remained in the same locality to the close of the week. It produced strong S.E. winds and gales in Ireland on Friday and cold rain and sleet on Saturday. Some sharp frosts occurred at some central stations in Great Britain during the last three days, but the weather remained warm in the S. and S.W. of Ireland, where even on Saturday the thermometer exceeded 50°. In Dublin the mean height of the barometer was 29·979 inches, pressure rising to 30·116 inches at 9 p.m. of Sunday (wind, W.S.W.), and falling to 29·821 inches at 9 p.m. of Saturday (wind, S.E. by S.). The corrected mean temperature was 46·9°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 45·8°. On Sunday the screened thermometers rose to 55·5°; on Saturday they fell to 38·1°. Slight drizzle fell to the amount of ·003 inch on Sunday and Monday, and on Saturday ·040 inch of cold rain and sleet was measured—total precipitation, = ·043 inch. At the

Ordnance Survey Office, Phœnix Park, the rainfall on Saturday, the 24th, was no less than ·640 inch. Dust was troublesome on Friday. The prevalent winds were S.W. and S.E.

The week ended Saturday, the 31st, was remarkable for the intensity and persistence of the frost in central Europe and in England—in most parts of Scotland and Ireland the frost was at times severe but not persistent—in the N.W. of Scotland and the W. and S.W. of Ireland there was scarcely any frost at all. The cause of this distribution of temperature was mainly the presence of an anticyclone over central Europe and England, while areas of relatively low atmospherical pressure were for the most part found off the N. of Scotland in one direction and off the S.W. of Ireland in another. The isotherm of 20° embraced one or another portion of Great Britain at 8 a.m. on every day of the week except Saturday—a fact which bears striking testimony to the severity of the cold. At 8 a.m. of Tuesday the thermometer stood as low as 10° at Loughborough, in Leicestershire. No extreme cold was felt in Ireland, but it was as severe in and around Dublin as in any part of the island—from Monday afternoon until midnight on Wednesday also an irritating dry smoke fog hung almost constantly over the city. A "silver thaw" occurred on Thursday with a freshening S. wind, which afterwards backed towards S.E. and E. with a renewed fall of temperature and leaden skies. The precipitation over Western Europe throughout the period was singularly small. In Dublin the mean height of the barometer was 29·966 inches, pressure ranging from 30·294 inches at 9 p.m. of Tuesday (wind, calm) to 29·698 inches at 9 p.m. of Friday (wind, S.E.). The corrected mean temperature was 32·8°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 31·7°. On Friday the screened thermometers rose to 43·1°, on Tuesday and again on Wednesday they fell to 21·9°. On Wednesday the minimum on the grass was 16·5°. From the evening of Christmas Day until Thursday morning the thermometer never rose above freezing point in the city, even in the screen. There was no rainfall. The prevailing direction of the wind was S.E. Calms accompanied the period of frost. A lunar halo was seen at 10 p.m. of Saturday, the 31st.

The rainfall in Dublin during the year ending December 31st amounted to 25·644 inches on 196 days, compared with 27·820 inches on 184 days in 1891, 27·562 inches on 200 days in 1890, 27·272 inches on 193 days in 1889, 28·679 inches on 190 days in 1888, 16·601 inches on 160 days in 1887, and a 25 years' average of 27·696 inches on 194·3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in December, 1892, was only ·756 of an inch, distributed however, over 16 days. Of this quantity ·264 of an inch fell on the 14th.

From January 1st to December 31st, 1892, rain fell at Knockdolian, Greystones, on 181 days, and to the total amount of 32·999 inches.

RAINFALL IN 1892,

At 40 Fitzwilliam-square, West, Dublin.

Rain Gauge:—Diameter of funnel, 8 *in. Height of top—Above ground* 3 *ft.* 2 *in.; above sea level,* 50 *ft.*

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which ·01 or more fell
	Inches	Depth	Date	
January,	1·698	·618	16th	20
February,	2·119	·531	20th	19
March	·991	·400	14th	9
April,	1·114	·410	24th	13
May,	4·177	2·056	28th	19
June,	1·671	·614	1st	17
July,	1·952	·610	15th	12
August,	3·557	1·310	16th	22
September,	2·631	·521	20th	19
October,	2·535	·784	14th	17
November,	2·404	·718	18th	19
December,	·795	·180	8th	10
Total,	25·644	—	—	196

The rainfall was 2·052 inches in defect of the average annual measurement of the twenty-five years, 1865–89, inclusive—viz., 27·696 inches.

It will be remembered that the rainfall in 1887 was very exceptionally small—16·601 inches, the only approach to this measurement in Dublin being in 1870, when only 20·859 inches fell, and in 1884, when the measurement was 20·467 inches. In seven of the twenty-five years in question the rainfall was less than 26 inches, and in 1885 it was 26·614 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32·966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1886—namely, in 1872, when 35·566 inches fell on 238 days, and in 1880, when 34·512 inches were measured on, however, only 188 days.

In 1892, there were 196 rainy days, or days upon which not less than ·01 inch of rain (one hundredth of an inch) was measured. This was slightly in excess of the average number of rainy days, which was 194·3 in the twenty-five years, 1865–89, inclusive. In 1868—the warm dry year of recent times—as well as in 1887, the rainy days were only 160, and in 1870 they were only 145. In 1868, however, the rainfall amounted to 24·935 inches, or more than 8 inches above the measurement in 1887, and even in 1870, 20·859 inches were recorded.

The rainfall in 24 hours from 9 a.m. to 9 a.m. exceeded one inch on two occasions—viz., May 28th (2·056 inches), and August 16th (1·310 inches.

Included in the 196 rainy days in 1892 are 31 on which snow or sleet fell, and 39 on which there was hail. In January hail was observed on 2 days, in February on 5 days, in March on 10 days, in April on 8 days, in May on 1 day, and in June on 2 days. Hail also fell once in September, on 7 days in October, and on 3 days in December. Snow or sleet fell on 7 days in January, on 8 days in February, on 7 days in March, on 5 days in April, and on 4 days in December. Thunder occurred on seven occasions during the year—twice in June and August, and once in January, July, and October. Lightning was also seen twice in August, and once in September and October.

The rainfall was distributed as follows:—4·808 inches fell on 48 days in the first quarter, 6·962 inches on 49 days in the second, 8·140 inches on 53 days in the third, and 5·734 inches on 46 days in the fourth and last quarter.

The rainfall in the first six months was 11·770 inches on 97 days—that is, not one half of the year's record. In May the rainfall was 4·177 inches on 19 days, and in August as much as 3·557 inches fell on 22 days.

Of the 5·734 inches which fell in the fourth quarter of the year, 2·355 inches were measured in October on 17 days, and 2·404 inches in November on 19 days. In December the rainfall was only ·795 inch on 10 days.

RAINFALL AT KILLINEY, CO. DUBLIN, IN 1892.

I am indebted to Mr. Robert O'Brien Furlong for the following note of the rainfall recorded at his residence, Cloneevin, Killiney, Co. Dublin, during 1892:—Total rainfall, 28·12 inches on 180 days. Average of eight years, 25·52 inches on 174·37 days. The fall was above the monthly average in February, May, June, July, August, September, and below the average in January, March, April, October, November, and December. The lowest monthly fall was in December, = ·62 inches (average, 2·117 inches), and the highest in May, = 4·68 inches (average, = 2·496 inches). The greatest fall in 24 hours was 1·80 inches on May 28th. The greatest number of days on which rain fell (·01 or upwards) in any month was 21 in November; the lowest was 10 in March. The lowest monthly average (eight years) is June, = 1·426 inches; the highest is October, = 3·201 inches.

J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F. R. Met. Soc.

Abstract of Meteorological Observations taken at Dublin (40 Fitzwilliam-square, West) during the Year 1892.

MONTH	Abs. Max.	Date	Abs. Min.	Date	Mean Daily Max.	Mean Daily Min	Rainfall	Rainy Days	Mean Height of Barometer	Highest Pressure	Date	Lowest Pressure	Date	Prevalent Winds
	°		°		°	°	Ins.		Ins.	Ins.		Ins.		
January -	54·0	29th	22·2	10th	43·5	34·0	1·698	20	29·857	30·484	25th	29·125	16th	W., N.W., S.W.
February -	54·6	7th	26·1	17th	45·3	37·3	2·119	19	29·787	30·666	18th	29·136	20th	W., E.
March - -	59·2	17th	23·8	11th	45·0	33·2	·991	9	30·057	30·687	22nd	29·138	15th	E., N.W., N.E.
April - -	63·8	20th	27·3	15th	53·8	38·6	1·114	13	30·039	30·506	1st	29·655	27th	N.W., E.N.E.
May - -	69·5	25th	37·9	5th	61·0	46·5	4·177	19	29·944	30·381	12th	29·474	28th	W.S.W., E.N.E.
June - -	76·8	26th	40·0	14th	64·0	49·3	1·671	17	29·979	30·362	7th	29·238	2nd	W., S.W., N., E.
July - -	70·8	6th	46·6	21st	63·5	52·0	1·952	12	30·019	30·370	24th	29·420	6th	N.E., N.W.
August - -	70·0	11th & 13th	43·0	10th	65·9	54·1	3·557	22	29·852	30·230	10th	29·140	30th	W., S.W., N.W.
September -	65·6	12th	40·8	17th	60·0	48·9	2·631	19	29·904	30·318	4th	29·369	30th	W., S.W., N.W.
October - -	53·2	28th	28·3	26th	50·0	39·5	2·535	17	29·759	30·422	18th	28·883	29th	N.W., W.
November -	56·8	4th	31·0	1st	51·6	42·1	2·404	19	29·922	30·371	27th	29·264	14th	S.S.E., S., W.S.W.
December -	55·5	18th	21·9	27th & 28th	43·9	35·2	·795	10	29·941	30·325	8th	29·344	11th	W., S.S.E., S.W.
Extremes, Totals, and Means	° 76·8	June 26th	° 21·9	Dec. 27th & 28th	° 54·0	° 42·7	Ins. 25·644	Days 196	Ins. 29·922	Ins. 30·687	Mar. 22nd	Ins. 28·883	Oct. 29th	W., S.W. N.W.
					48·4°									

PERISCOPE.

A FORTUNE WASTED IN DRINK EVERY YEAR.

How much yet remains to be done in the way of bringing about a precise system of administration of alchohol in workhouses may be inferred from a note at the foot of the Workhouse Drink Map, which goes to prove that there is something like £40,000 wasted annually upon intoxicating liquors for the inmates of our State institutions, supported out of the poor rates paid, in many instances, by persons only themselves a shade removed from the direst poverty. £44,283, it says, was expended in the United Kingdom, during 1891, upon intoxicants for the workhouse inmates; or an average cost, for 226,281 inmates, of 3s. 10⅞d. per head. If, without abolishing the use of intoxicants altogether, as has been done at Wrexham and many other workhouses, the expenditure under this head throughout *all counties* had been at the *same rate* as in the *six counties* left white on the map (4⅛d. per head for 3,726 inmates), £3,889 would have sufficed to supply all the legitimate alcoholic requirements of regular medical prescription for every indoor pauper, thus showing £40,394 to have been *practically wasted.* A part of this sum was illegally given by guardians as a reward to paupers for work done; other portions were the occasions of more glaring abuse.—*The National Bulletin*, Jan. 10, 1893.

CŒLIOTOMY.

We have received the following letter from Dr. Robert P. Harris, 329 South 12th-street, Philadelphia:—

"*To the Editor.*

"Dear Sir,—In your Journal of July, 1892, p. 57, the reviewer of Mr. J. Greig Smith's work on Abdominal Surgery, 4th edition, writes as follows:—'With only one revision do we quarrel—Mr. Smith has adopted Dr. Harris's horrible (?) term "Cœliotomy" as a synonym of "abdominal section.'"

"I refer the writer to the pamphlet sent; also to page 693, *Brit. Med. Jour.*, March 26th, 1887—to the following:—'May I suggest the use of *Cœliotomy* from κοιλία, the abdomen; and τέμνειν, to cut. The former word is already familiar to us, in the name of the widely-distributed abdominal artery, the cœliac axis.'—*N. Davies-Colley* (36 Harley-street, W., London, March 14, 1887).

"My pamphlet was issued on August 15th, 1890, and I knew nothing of the above until a reviewer of it directed my attention to his article.

"Yours very respectfully,

"Robert P. Harris."

THE DUBLIN JOURNAL
OF
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THE KEPLER SOLUTION OF COD LIVER OIL.

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THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

MARCH 1, 1893.

PART I.

ORIGINAL COMMUNICATIONS.

◆

Art. VIII.—*On the Operative Treatment of Trifacial Neuralgia.*[a]

By **William Thornley Stoker**, Surgeon to the Richmond Hospital; Vice-President of the Royal College of Surgeons in Ireland.

The suffering produced by some forms of trifacial neuralgia are so great, the malady is so common, and generally so intractable, that any contribution to its literature will be welcome alike to physicians and surgeons. It is one of those complaints which, for many reasons besides its therapeusis, is common ground to both branches of our profession. Therefore, although the points I propose to speak of are purely surgical, they will, in view of the frequent failure of medical treatment in neuralgia, recommend themselves to physicians no less than to surgeons.

It is as an outcome of recent advances in the special surgery of the brain, as well as in modern methods of operation, that increased attention has been called for the last year or two to the operative treatment of neuralgia of the fifth nerve in cases where other means have failed, and where life or comfort is threatened by intense suffering. The able papers of Professor Horsley in November, 1891, and of Professor William Rose in the beginning of 1892, are the most remarkable writings on this subject in

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[a] Read before the Section of Surgery of the Royal Academy of Medicine in Ireland, on Friday, January 20, 1893. [For the discussion on this paper, see No. 254, p. 161.]

England, and are what might have been expected from so distinguished and original an investigator as the former and so bold and skilful a surgeon as the latter. But operations on nerves for the relief of pain, although called into added notice of late, are by no means new procedures. Of the four methods of treatment to which I shall have to allude—neurotomy, neurectomy, stretching, and avulsion—neurotomy, or section of a nerve, was suggested as far back as the time of Galen, and practised 150 years ago; neurectomy, or removal of a part of a nerve, was performed by Abernethy in 1793; stretching was introduced in 1860; and avulsion is the only method that can claim a very recent birth, having been first practised by Professor Thiersch in 1889.

1. As regards the operation of neurotomy, or mere division of a nerve, it may be briefly dismissed. It usually gives only temporary relief, as the cut ends sooner or later unite and pain is re-established. This observation applies to cases in which, neurectomy being performed, only a short piece, amounting, perhaps, to half an inch, of the nerve is excised; for, even then, the ends have been known to become united, and sensory function restored. I can myself record such an incident in more than one case.

2. Stretching is also a proceeding of limited use, being of suitable application, as a rule, only in the cases of mixed nerves. In neuralgia affecting spinal nerves, such as the sciatic, where a motor as well as a sensory function forbids division of the trunk, this treatment, although usually only temporary in the benefit it confers, is defensible, not only for the relief it gives for a longer or shorter time, but for the stronger reason that it is the only final surgical method permissible. In the cases of purely sensory nerves, such as most of the divisions of the fifth, another rule seems to apply. In spite of the advocacy of stretching—for instance, by Mr. Walsham in December, 1891 (*Brit. Med. Jour.*)—I cannot think that a good case is made for the operation, and it seems that the very instance he records in which he has within ten or twelve years stretched the inferior dental nerve five or six times in the same patient for recurrent neuralgia of that trunk, is in itself a strong argument against his practice, and that a neurectomy would have been more effectual and not open to any grave objection.

That stretching a nerve may give relief of greater or less duration is not denied, but in neuralgia of the sensory divisions of the fifth I am disposed to advocate a more radical proceeding, and, if stretching be employed, to use it in conjunction with neurectomy as a means of reaching the proximal part of the nerve trunk between the seat of operation and the brain. Here it may become an additional means of avoiding a return of pain, and at all events gives a patient a chance of being spared the formidable proceeding of opening the skull to remove the Gasserian ganglion. In a case I shall presently mention in which I removed the infra-orbital nerve by open operation, it may be assumed that the stretching consequent on avulsion, which was a part of my procedure, has had a good effect, for no pain has returned in the proximal part of the trunk which remains attached to the brain.

3. The operation of avulsion has been variously performed. In its latest method, as developed by Prof. Thiersch, it is done by exposing the nerve trunk at some convenient point, isolating it, seizing it with a forceps, dividing it at the peripheral side of its exposed point, and by twisting and traction removing as much of its proximal part as is possible. It will be easily conceived that this operation is much superior to neurotomy, and combines the advantages of a limited neurectomy with those of stretching. It is open to the objection that it is blindfold and uncertain in its extent, and therefore unscientific. It seems much more reasonable to expose the nerve trunk and see exactly what we are doing. Avulsion should, I think, be reserved for those cases where complete exposure is not possible, or where for some other reason it is not deemed expedient. In connection with this treatment we must not overlook the difference between avulsion, which, owing to the connections of a nerve, is likely to tear it across at some point removed from its cerebral attachment, and a traction at such a place or exercised in such a manner that it is capable of tearing a nerve from its cerebral origin. While the former is a justified proceeding, it is not to be forgotten that the latter is on trial, and that in the case published by Prof. Horsley, where he exposed the Gasserian ganglion and avulsed the trunk of the nerve from its pontal origin, the patient died in a few hours from shock.

4. The operation of neurectomy seems, on the whole, that which alone, or combined with avulsion, is most exact, most scientific, and most likely to give good results. I do not propose to enter into the general consideration of neurectomies of the 5th nerve, but to deal with those of which I have had practical experience in the living subject—namely, the gustatory and the second division. Suffice it, as regards the rest, to remark that numerous operations

have been proposed and practised on all the divisions of the trifacial nerve, that they have been so far established as meritorious and recognised surgical procedures, that in the case of each nerve the question is not whether, due cause existing, operation is justifiable, but rather which mode of performance best suits the particular case.

As for the final and capital question, whether operations on the trunks outside the skull being inexpedient or, having failed, it is right to open the cranium and remove the Gasserian ganglion, judgment must for the present be suspended. The brilliant work done in this direction seems to promise a future for this bold proceeding, but it is not my province at present to do more than refer to it, and to say two things—first, that the method devised and practised by Rose of approaching the ganglion through the pterygoid fossa commends itself to me much more strongly than Horsley's operation of opening the middle fossa through the temporal region, and gaining access by raising the temporo-sphenoidal lobe; and second, that either of these operations would have no chance of success except in the hands of a surgeon of accomplished method and with an exact practical acquaintance with the anatomy of the parts. I am aware that I am using a dangerous argument when I say that either of these operations could not be undertaken by surgeons of ordinary training and expertness, and I am slow to state it, but their difficulty is so very great that I think they are practically out of reach of many able and skilful men.

3rd Division.—Concerning the 3rd division of the 5th, I have to say that I have frequently divided or removed its gustatory branch on one or both sides, usually to relieve the pain of cancer of the tongue, and once for neuralgia. Various means of reaching the gustatory nerve have been proposed, either from the mouth or from the outside. Those operations which approach the nerve from the outside are—the retro-maxillary and the transmaxillary, with their various modifications. These operations are much more formidable than that through the mouth, and although they are advocated by both Rose and Horsley to the exclusion of the intrabuccal method, I agree with Mr. Walsham, who pleads strongly in favour of the latter. The objection to the operation in the mouth, on the ground of the liability of the wound to septic infection, is more theoretical than practical. I have done the operation through the mouth often, and have never seen trouble of this kind, and we all know how rapidly and safely the most formidable mouth-wounds heal. There are cases where the more free access afforded by the retro- or the transmaxillary operation is demanded, but they are not common. Also there are cases of advanced cancer of the tongue, where it would be difficult or impossible to find the gustatory nerve through the mouth, and where, if operation on it were demanded, it had better be done from without. Supposing such a course to be necessary, the transmaxillary operation of trephining the ramus of the jaw, as recommended by Velpeau and modified by and practised by Rose and Horsley, is, I think, the best. It permits removal of considerable portions of both the inferior dental and gustatory nerves. For all ordinary purposes, however, operation through the mouth, which is a much more simple proceeding, suffices, and the particular operation which best exposes the inferior dental and gustatory nerves is that of Paravicini. It is performed by gagging the mouth wide open, retracting the cheek, incising the mucous membrane and periosteum for about an inch parallel to and a line or two behind the anterior edge of the ramus of the jaw, the incision extending down behind and below the level of the last molar tooth. The soft parts are then stripped off the jaw or pushed backwards with a director so as to expose the dental forward. Walsham, who advocates this operation strongly, advises that the periosteum should not, as in the original proceeding, be removed from the jaw, and my own experience leads me to coincide with him. In the middle of this incision the inferior dental nerve can be found, and in the lower part of it the gustatory, and one or both can be lifted with a blunt hook, stretched, and a portion of its trunk removed. The operation for division of the gustatory, by a short incision behind and below the last molar, without exposing the nerve to view, as practised by Hilton, I have not done of late years. It is blindfold, the nerve may be missed, I have seen troublesome bleeding from division of an arterial twig, and the nerve will probably rapidly reunite. It is better to expose the nerve by the method of Paravicini and remove a portion of it. Several advantages attend this more thorough exposure besides the certainty it offers of not missing the nerve; it permits neurectomy instead of mere division, it exposes both nerves, it allows of stretching being added, and it is free from the risk of hæmorrhage, as the nerve to be divided can be separated from any arterial connection.

2nd Division.—With regard to the 2nd division of the 5th nerve, the operation of resecting it on the cerebral side of Meckel's ganglion is one which has lately come into prominent notice. It is indicated in those intense cases of facial tic which engage the entire distribution of this nerve, and where experience shows that other treatment or any operation on the distal side of the spheno-palatine branches yields no good result, or only a temporary one. Clinical and operative experience have of late pointed very clearly to the inutility of operations other than those performed on the nerve at its exit through the foramen rotundum and on the proximal side of the branches to Meckel's ganglion.

Three operations have been proposed in order to expose this 2nd division at the base of the skull in the pterygo-maxillary fossa:—

1. The orbital;
2. The antral; and
3. Pterygo-maxillary.

The last of these—the pterygo-maxillary—is a very formidable and long proceeding, which seems to me to have nothing to recommend it. It is claimed for it that it produces a cicatrix at the side of the face where it is not disfiguring, and that it avoids the danger of septic infection consequent on the engagement of the antral cavity in either of the other operations. In answer to this I say that the orbital method which I have practised does not produce a disfiguring cicatrix, and that the danger of infecting the antrum, if the operation be properly done, is too remote to be considered as weighing against a measure of much greater magnitude, and which involves the probable ligature of the internal maxillary artery.

The antral operation has nothing that I can see to recommend it as compared with the orbital; it is more severe, more disfiguring, and has no compensatory advantage. The orbital operation of Wagner, as practised by Horsley, is the one I have followed. It is easily done provided no mistake is made, it affords sufficient access to the pterygo-maxillary fossa, and it leaves no mark if skilfully performed. It has been done in Dublin by Mr. Brooks as well as by me, and I think he can bear out all that is claimed for it.

The operation is done as follows:—

(*a*) The eyelids are stitched together by a point of fine suture inserted ¼ in. from their ciliary margins. This serves the double

ACTUAL SIZE.

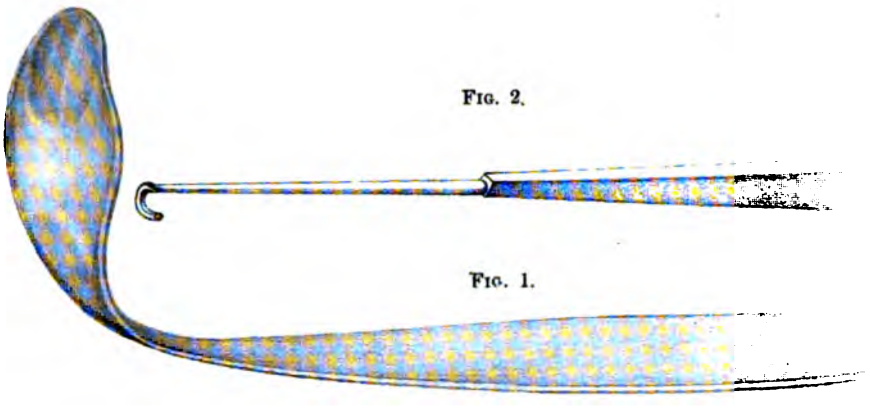

FIG. 2.

FIG. 1.

MR. THORNLEY STOKER ON THE OPERATIVE TREATMENT OF TRIFACIAL NEURALGIA.

purpose of excluding irritating lotions from the eye, and of fixing the parts.

(*b*) The position of the infra-orbital foramen is then found; it lies in the course of a line drawn from the supra-orbital foramen to the interval between the upper bicuspids, a little inside the mid-orbital line.

(*c*) A curved incision is carried along the lower edge of the orbit and parallel to it; it should divide all tissues down to and including the periosteum. A vertical incision is made downwards from this for ½ to ¾ inch corresponding to the position of the foramen. The tissues having been dissected aside, the foramen is readily felt with a probe, and the nerve and artery found at their exit.

(*d*) The nerve should then be separated from the artery, seized with a clip-forceps close to the foramen, and divided on the distal side of the forceps. The artery, if necessary, may be tied; I did not find it necessary to ligature it.

(*e*) The periosteum of the floor of the orbit is next raised with a flat director, and as it is very thin, care must be taken not to tear it. Should it be torn, prolapse of the orbital fat into the wound takes place, and complicates the operation.

(*f*) The contents of the orbit are then raised from the floor by an assistant, using a retractor I have had made for the purpose, and which is depicted in the accompanying plate (Fig. 1).

(*g*) The upper boundary of the infra-orbital foramen is then removed with a fine bone-forceps, taking care to make the opening as small as possible, as if too wide the tissues of the lid may sink into it and produce disfigurement. The upper wall of the canal is then removed, either with a fine forceps or with a small director. This wall is so thin as to offer no resistance, and usually only covers the anterior half of the canal, which in the back part of the orbit is a mere groove.

(*h*) The nerve is then lifted from the canal by the attached forceps, and by working along it with an instrument such as that shown in the plate (Fig. 2), can be freed and exposed as far back as the pterygo-maxillary fossa without much trouble. If there be any oozing it can be checked by packing the cavity for a minute or two with pieces of hot sponge.

(*i*) The nerve may then either be divided at the foramen rotundum by fine curved scissors, or seized with a forceps as far back in the fossa as possible and avulsed from its basic attachment by a process of pulling and twisting. I removed it by the method of avulsion, and I think it best because it affords a hope of relief in case the seat of the disease is at the point of exit from the skull or behind it. It is more than probable that many neuralgias have their origin in a narrowed foramen or in duramatral changes of other kinds.

If the antrum has been opened it should be filled with powdered boracic acid. In the case I operated on I dusted the wounded surfaces thoroughly with boracic acid and iodoform, removed the suture in the lids, closed the wound by catgut sutures, and bandaged the eye with suitable gauze and cotton dressings.

With regard to the cases in which I have divided or resected the gustatory nerve in cancer of the tongue, I need make no remark beyond what I have said in stating my opinion on the general question. The one instance in which I have performed this operation for neuralgia is an incident of the following case:—

CASE.—Miss E. P. was brought to me by her brother in August, 1891. She was sixty-eight years of age, extremely spare, attenuated by suffering, and of marked pallor. Her neuralgic trouble dated back to about thirty years previously, when she was seized by a severe pain in her left shoulder and arm, which resulted in some impairment of sensation in her fingers which has lasted ever since. She came of a gouty family, and her fingers and toes were much deformed by gouty deposits. She had suffered from neuralgia of the right trifacial nerve for twenty-five years, of the attacks of which I got the following history:—They occur at all times of the year, and during all kinds of weather. The pain comes on gradually, increases in severity, and lasts for uncertain periods, varying from five or six weeks to as many months. The remissions are seldom complete, and much less so latterly. The second and third divisions of the nerve have been affected, sometimes separately, at other times together. About ten years ago the tongue first became affected, but the pain in it did not become severe until about two years before she came under my observation. She had been treated by numerous physicians, including Brown-Séquard, had taken every conceivable drug, and been sent to all sorts of health-resorts, but without receiving any permanent benefit. I need not describe the attacks of pain, they were of the most extreme character, belonged to the dreadful form of neuralgia named by Trousseau "tic épileptiforme," and were, as is usual in this disease, attended by spasms of the muscles on the corresponding side of the face, sometimes extending to the neck and shoulder. Her state of suffering was indescribable, and at the time I saw her she was dying from the joint effects of pain and inanition, being unable to swallow owing to the tongue-pain.

She had been sustained for some time by nutritive enemata, and had taxed the trained resources of Dr. Jacob of Maryborough, who had seen her frequently in consultation, to the last degree.

At the time she came to me in August the only seat of pain was the tongue, and as her condition was so urgent as to demand immediate treatment, with the approval and assistance of Dr. Jacob I exposed her right gustatory nerve by Paravacini's method on September 2nd, 1891, and removed about half an inch of it. In order to allay the epileptiform habit, she was then given ʒi. of bromide of potassium and ʒss. of tr. of digitalis three times a day. She got immediate relief. Some twinges of pain which remained in the tongue and lower lip gradually disappeared, and in a couple of weeks she went home in restored health and free from pain.

In March, 1892, six months afterwards, the disease recurred in the entire distribution of the superior maxillary nerve, and as it refused to yield to medical treatment, and was rapidly destroying her, it was resolved, in consultation with Dr. Jacob, to remove the affected nerve by the operation I have described. She was so reduced by April 3rd, the day of the operation, that she could not be brought to town, so, assisted by Drs. David and William Jacob, I removed it at her own home in the country.

The dressings were removed by Dr. Jacob on the third day, and the wound was found to have completely healed. A few twinges of pain, but of no particular moment, were felt for some days after the operation, but they gradually disappeared, and from April 3rd up to December—that is to say for eight months—the lady remained quite free from pain. Such an interval of peace she had not known for thirty years; she improved in health, increased over one stone in weight, and was, when I saw her last, in excellent condition, without any deformity from the operation, and seemed to have taken a new lease of life.

The nerve removed was examined by Professor Scott, who has supplied the following report:—The general nerve bundles in the specimen are apparently perfectly normal. The blood vessels are also normal, and have no evidence of endarteritis. In some very small nerve bundles lying in the interfascicular connective tissue, and which contain only about a dozen nerve fibrils, some of the fibres have lost their myeline sheath. In one case the whole little bundle is affected; in another all but three or four fibres, which seem normal. This loss must be due to some commencing degenerative change in these small nerves. As far as I could make out, the axis cylinders are not much affected in shape as yet. I could not see the "oyster-shell" appearance described by Schweinitz, nor any evidence of an acute neuritis.

In the latter part of December, 1892, the neuralgia in its most aggravated form made its reappearance in the distribution of the

3rd division of the 5th, on the right side, including the tongue. This did not, of course, impair the prestige of the operation on the 2nd division of the nerve, but it showed the possibility of re-establishment of the function of a nerve when only a short section of it has been removed, for I took over half an inch of the lingual away by the first operation. The subsequent diminution of the degree and area of anæsthesia has been noticed in several cases of division of the 5th nerve. It is interesting in connection with the researches of Dr. Brooks on the subject, and his observations of the extensive anastomoses which exist between nerves. It is, of course, doubtful whether the return of pain in the tongue in this instance was due to union of the divided trunk or to re-establishment of the function of its periphery from the development of anastomoses.

The question of an operation on the trunk of the 3rd division of the 5th above the origin of the gustatory has since been entertained, but for reasons which I need not relate has not been decided on. The lady has now (February, 1893) recovered the late attack of neuralgia of the 3rd division, and is in good health.

CONCLUSIONS.

1. That in cases of trifacial neuralgia demanding operative treatment neurotomy is not usually a satisfactory or efficient operation.
2. That in purely sensory nerves stretching is at best but a temporary expedient, and either should not be undertaken, or having once been performed and followed by a return of pain, should not be repeated.
3. That the reasonable treatment in trifacial neuralgia of an extreme character is neurectomy, and that while the operation on divisions of the 5th nerve external to the cranial cavity may be regarded as an established procedure, the ultimate operation of removing the Gasserian ganglion must still be considered as on its trial.
4. That avulsion should only be practised as a part of an open operation, and that, as originally proposed by Professor Thiersch, it should be regarded as a blindfold and unscientific proceeding, to be undertaken only when an open operation is for sufficient reasons impossible or inexpedient.

ART. IX.—*Movable Kidney.*[a] By KENDAL FRANKS, M.D., Univ. Dubl.; Fellow and Member of Council, Royal College of Surgeons, Ireland; Ex-Sch., T.C.D.; Member of Council, Royal Academy of Medicine, Ireland; Surgeon to Adelaide Hospital.

FLOATING kidney is so seldom seen, either in the dissecting room or on an operating table, that I have frequently met with men who doubted its existence, and who seemed inclined to look upon it as one of the refuges for difficult diagnosis. I therefore think it may not be an unnecessary trespass on your time to lay the following case before you, and to offer some observations upon the subject of Movable Kidney in general:—

CASE.—Mrs. C., a postmistress, aged thirty-two, was sent up to me from the country on the 27th of September, 1892, with a request from the doctor, under whose care she had been, that I would do what I could for her. She had been married for thirteen years and had ten children, the youngest of whom was born last February. She dated her troubles from an attack of influenza in December, 1891, whilst she was *enceinte.* After she recovered from the influenza she suffered continuously from abdominal pains and attacks of sickness. Her confinement in February was normal; she got well rapidly and suffered from no after troubles whatever. The abdominal pains and sickness, which she had had since December, were unaffected by her delivery. She came up to Dublin for rest and change in April, and consulted Dr. Little. At first he prescribed salicylate of bismuth and put her on a milk diet, and subsequently made her wear a binder round the body with a broad abdominal pad. This gave her great relief, but gradually the effect wore off—I presume as the binder got slack.

When I saw her she complained of a constant dragging pain in the abdomen, which varied much in intensity, but was unaffected by the menstrual periods. When an acute attack came on, which very frequently occurred, the pain gradually got worse until it became agonising. This was followed always by sickness of the stomach, vomiting lasting for some time. These attacks were uninfluenced by food. It made no difference whether the stomach were empty or full, except that the retching was less distressing, if she had anything in the stomach to bring up. No special kind of food or change of diet had any effect upon these paroxysmal attacks. When the pain came on she used to feel a lump in her right side. It seemed to her as if something contracted and formed a lump or lumps. These disappeared as soon as the pain stopped. I examined her lying down on a couch, and at once detected "the lump."

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[a] Read before the Section of Pathology in the Royal Academy of Medicine in Ireland, on Friday, January 13, 1893.

It lay in the right side below the line joining the umbilicus to the right anterior superior spine of the ilium. It could easily be pushed upwards until it disappeared beneath the edge of the liver, where it appeared to occupy the normal position of the right kidney. It was smooth and elastic to the touch, and I thought I could feel the hilum. I had no doubt in my mind that I had to do with a case of movable kidney. She had no urinary trouble, and the urine, when examined, was practically normal. When compressed between the fingers, she at once said she experienced the same pain that she always did during a paroxysm. Examination of the rest of the abdomen revealed nothing abnormal, except that the stomach was evidently dilated. She was admitted to the Adelaide Hospital on September 28th. A couple of days later I examined her in bed with my colleague, Mr. Heuston. At first we could find no tumour, but when we put her sitting up in bed, and gave her a slight shake, the tumour at once appeared in the same position I had at first found it. When I first saw her she had been walking about town, so that the tumour lay in a convenient position for investigation, but after lying in bed for a couple of days it had gravitated into its normal position. From the sensation the tumour gave to the fingers, and from the severity of the pain she suffered, I believed we had not only to deal with a movable kidney, but also probably with one the seat of calculus. I therefore determined to open the abdomen, to examine the kidney; if healthy, to stitch it into its proper position, and if calculous, to excise it. I also believed that this exploration could be much more easily and much more thoroughly performed through an anterior than through a lumbar incision.

The operation was performed on October 4th, 1892. A vertical incision was made in the right linea semilunaris, about five inches in length, and the peritoneum opened. The kidney had fallen back into its normal position below and behind the liver, so that I had to pass my hand up to this position and lift it out of its bed. It came readily forward, and at once confirmed the diagnosis of a floating kidney. It appeared a little more crimpled than usual, but otherwise normal, except for its surroundings. It was totally devoid of its usual fatty capsule, and instead of this was accurately covered all round with peritoneum. The peritoneum was reflected at the hilum on to the vessels and ureter until it reached the right side of the spine, when it became continuous with the posterior parietal layer. The kidney had thus a perfect mesonephron. The upper portion of the kidney at its internal border was firmly attached to the duodenum by a peritoneal band; by drawing the kidney downwards until it occupied the same position which it usually did in its wanderings, it became apparent that it so dragged upon the duodenum as in a great measure to kink it and so to close its lumen. This explains the dilated condition in which the stomach was found to be, and was evidently the cause of her gastric troubles. I then punctured the kidney in several situations and directions with an ordinary round sewing needle fixed in a handle, in order to satisfy myself as to whether it contained a calculus. Having found that there was no stone to be felt, I fixed it in the right side as nearly as possible in its normal position. The method I employed was this:—I passed a strong curved needle, armed with a stout silk ligature, through the posterior wall of the kidney first. The needle entered in the lower half, transfixing the peritoneal and fibrous capsule, and probably portion of the renal substance. It emerged in the upper half, about 1½ inches from the point of entrance, in a vertical line above it. Having drawn the silk through, I withdrew the needle. The upper end of the ligature was then threaded into the needle. With my left hand I encircled the tissues in the loin, so that with the thumb inside the abdomen, and the fingers externally at the back, below the 12th rib, I could feel that there was nothing between them than the posterior abdominal wall. I then transfixed the wall with the needle, bringing it out just below the 12th rib. A small incision was then made at this point in the back, through the skin, in order to be able to bury the knot of the ligature. The end of the silk being secured, the needle was withdrawn and threaded with the lower end of the ligature. The posterior abdominal wall was again transfixed, as nearly as possible about 1½ inches below where the first ligature entered, and was brought out through the small incision in the loin. The two ends of the ligature were then firmly tied behind so as to fix the kidney in this position. The ends were then cut off and a single suture through the edges of the skin completely closed the wound over the knot. The abdominal wound was then rapidly closed, and the patient removed to bed. She made an uninterrupted recovery. She came to see me two months later. I could not then detect anything abnormal with the kidney. The silk ligature has given no trouble, and she has completely lost the dragging pain and the paroxysmal attacks from which she suffered, but she is still troubled with indigestion and flatulency, but she has lost the sickness.

I have brought this case forward mainly because a true floating kidney—that is, a kidney with a well-defined mesonephron—is not very often met with at an abdominal operation, nor in the dissecting room, nor at an autopsy. In fact, this condition is so rare that some writers even doubt its existence. Thus, Sir Wm. Jenner says, in his Clinical Lectures on the Diagnosis of Extra-Pelvic Tumours of the Abdomen—"A movable kidney is one thing, a floating kidney is another. We very rarely see or feel a floating kidney. I have never met with one, after death, though I have felt in a patient what has been supposed to be one." He does not, however, deny that such a condition may exist. Mr. Lawson Tait is more sceptical. In the *British Medical Journal* for Nov., 1882, in reference to a case "pronounced to be a 'floating kidney' by several distinguished authorities," but which proved at the time of operation to be a distended gall-bladder containing a large number of gall-stones, he said—"I put the floating kidney altogether on one side; besides, I have never seen such a thing, either in life or in a museum, nor have I met anyone who has. In fact, I have no belief in its existence as a pathological incident." This statement alone would warrant me in laying the above case before the Academy.

Newman's classification of displacements of the kidney is the most convenient. He divides them into three classes:—

1. Simple displacement, without mobility of the kidney.
2. "Movable kidney," where the organ is perceptibly mobile behind the peritoneum.
3. "Floating kidney," where the peritoneum forms a mesonephron which attaches the kidney loosely to the spine.

Simple displacement without mobility is congenital and by no means uncommon, and may exist without causing any disturbance. Newman found that in 1,000 *post-mortem* examinations 24 cases occurred where the position of one or both kidneys might be described as distinctly abnormal. In 9 of these cases there was also malposition of the supra-renal capsule. Roberts states that in 21 cases which he was able to collect and compare, the abnormality was in every instance confined to one kidney, and the *left* kidney was much more commonly affected than the right (left, 15; right, 6). In these cases of simple displacement the renal artery is abnormally long, and the renal vein enters the nearest large venous trunk. The kidney is never found in the epigastrium or the hypochondriac regions. It may be found transversely behind the umbilicus, in front of the vertebral column, in the iliac fossa, on the sacro-iliac synchondrosis. M. Aubé has found it between the common iliac arteries, close to their origin from the aorta; and Pacoud describes a case in which a kidney was found in the pelvis between the rectum and bladder. Whatever position the kidney occupies, it is fixed there.

In *movable kidney* the organ is mobile behind the peritoneum, either within its adipose capsule, or in a sac formed between the peritoneum and the muscular wall of the abdomen.

It is an acquired condition, and may appear first at puberty, but usually is discovered between the ages of twenty and sixty. About 81 per cent. occur between twenty and fifty.[a] It is not unknown among children; Steiner[b] found it three times in children aged respectively six, nine, and ten years; Kepler[c] saw it in a little girl of nine; and Hirschsprung[d] in two cases—one a boy of seven, and the other a girl aged eight years; but movable kidney in children is quite exceptional.

Movable kidney, though of much more frequent occurrence than the floating variety, is nevertheless *pathologically* rare. In over 11,000 autopsies in three hospitals, quoted by Newman, only 11 cases were found, or only 1 in 1,000. In the Klinik of Oppolzer, given in Rollet's statistics, there were 22 cases in 5,500 autopsies, or 1 in 250; Ebstein states that in 3,658 *post-mortem* examinations in the Charité Hospital at Berlin, a movable kidney was found only 5 times, or once in 731 autopsies.

Clinically, however, we recognise that mobility of the kidney is much more common. I have seen four or five cases in which I had no doubt about the diagnosis, but in which the mobility of the kidney gave rise to no symptoms, and therefore the diagnosis could not be verified. The case I have recorded was one of floating kidney, and at the operation the diagnosis was proved correct. Skorczewsky[e] states that in 1,422 patients whom he examined during life, 32 females out of 1,030, and 3 males out of 392, were the subjects of mobility of kidney. Amongst the poor of Austria, according to Oser of Vienna, 10 per cent. of the women who have borne children are affected.

Now, the discrepancy between the pathological and clinical statistics may be attributed, of course, to faulty diagnosis. But I think it may be accounted for otherwise. In autopsies, and in abdominal operations, the subject occupies the dorsal position, which favours the return of the kidney to its normal situation. Hence, unless attention is specially drawn to the organ, its power of mobility is likely to escape detection. Again, as noticed by Newman,[f] "the adipose tissue around the kidney becomes firm after death, so that even in a case where the kidney was movable during life, it might become so fixed after death as to escape observation."

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[a] Newman. Surgical Diseases of the Kidneys. 1888. P. 27.

[b] Compend. der Kinderkr. Leipzig. 1872. P. 314.

[c] Archiv. für klin. Chirurg. 1879.

[d] Hospitals-Tidende. 1879. T. VI., p. 48.

[e] Morris. Diseases of the Kidney. 1885. P. 27.

[f] Loc. cit. P. 30.

There are two features about movable kidney which are particularly striking. First, the relative frequency of the condition in women as compared to men; and secondly, the relative frequency of the right side over the left.

The proportion of women affected with movable kidney as compared with men is very great. Thus, in 64 cases in Lancereaux's table, there were 55 women to 9 men. In a table of 249 cases compiled by Dr. A. W. Foot,[a] there were 215 women to 34 men. Both of these give a proportion of about 6 women to one man. In the 290 cases collected by Newman, the sex is given. Of these 252 were women and 38 men—a proportion of 1 to 6·6. In Keen's table of cases of nephrorrhaphy[b] for movable kidney, the sex is reported in 99 cases. Of these 93 were women and 6 men—a proportion of 15·5 to 1. The excessive proportion in Keen's table would seem to indicate that women either suffer more from a movable kidney than men, or that they are more ready to submit to an operation for relief.

In considering the relative frequency of mobility of the two kidneys, it is remarkable how much more common it is on the right than on the left side. Ebstein gives 4·5 to 1 as the ratio; but this seems too small. In Landau's tables[c] he found movable kidney 151 times on the right to 13 on the left—a proportion of 11·6 to 1. Fourteen times he found it bilateral. In Keen's tables of nephrorrhaphy the side is reported in 87 cases; of these 76 were right and 7 left—a proportion of very nearly 11 to 1. He found it on both sides in four cases.

Considerable diversity of opinion exists as to the causes of movable kidney. Cruveilhier attributes it to the pressure exerted upon the liver by stays, this transmitted pressure driving the kidney out of its normal situation. This, however, will not explain its occurrence in men, nor in those women who do not wear tight stays. Lancereaux calls attention to the physiological and pathological relation between the kidneys and the generative organs to explain its occurrence. Guttmann[d] calls attention to the congestion of the kidneys which accompanies the menstrual epochs. These organs tumefy, become heavier, and have a tendency to leave their normal position and to descend little by little into the abdomen. But even in women this will not always explain the occurrence of renal mobility—as, for instance, in the case reported by Guyon,[a] where a movable kidney, accompanied by acute pain, appeared for the first time in a woman aged fifty-four, a year after the menopause. Landau attributes the different behaviour of the right and left kidney to the difference in their mode of attachment, to the difference between the hepatic and the splenic flexures of the colon, to the position of the left renal vessels above the horizontal part of the duodenum, to the shortness of the left renal artery, and to the extra support the left kidney gets from the attachment of its vessels to the pancreas.

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[a] Dub. Med. Journal. 1881. Vol. I. P. 386.

[b] Trans. Amer. Surgical Assoc. 1890. P. 197.

[c] Archiv. für. klin. Chirurgie. 1879.

[d] Traité du Diagnostic. P. 444.

Newman[b] offers the following explanation:—"The posterior surface of the right kidney is practically in contact with the crura of the diaphragm and the great lumbar muscles, while interposed between its anterior surface and the anterior abdominal wall there is a large solid organ—the liver. Now, suppose the patient strains the abdominal muscles, as during delivery, or in lifting a heavy weight, both the anterior and posterior abdominal muscles are brought into powerful action, the liver being pressed backwards by the anterior muscles, the kidney pressed downwards by the crura of the diaphragm, and forwards by the posterior abdominal muscles. Now, the resultant of these forces will act in a manner similar to what takes place when one presses a bean between the finger and thumb—that is to say, the kidney will be pressed downwards."

I do not think, however, that we can accept this as the solution. No doubt women experience great abdominal strain during delivery; but in lifting heavy weights, and in work involving severe strains on the abdominal muscles, men are much more liable to injury than women. If this were the cause of mobility in the kidney we should find it much more commonly in men than we do, and perhaps even more frequently in men than in women. But this mechanical theory of Newman's might be accepted as a good working theory if the liver were a solid body—that is, if in the living body it were as solid an organ as it appears to be on the dissecting-room table; but we know it is not, and, as Professor Cunningham has pointed out to me, the very pressure which

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[a] Journal de Méd. et de Chirurgie Pratiques. 1888. P. 441.

[b] Loc. cit. P. 36.

Newman thinks would tend to drive the kidney downwards would in reality only help to bury it the deeper in the under-surface of the liver.

Now, in seeking for a cause which will satisfy the majority of cases of movable kidney, we must bear a few facts in mind which will also, I think, help us to a proper solution. In the first place, movable kidney is much more common among women. Secondly, it is found mostly in women who have borne large families, and who have had their children in rapid succession; it occurs in the large majority of women during the child-bearing period—81 per cent. between the ages of twenty and fifty. Thirdly, it is generally found in women who, from some cause or other, such as repeated pregnancies, have emaciated rapidly. Fourthly, it is found much more frequently on the right than on the left side. Now, the explanation of this last circumstance, I think, may be explained on purely anatomical grounds. Besides the considerations already alluded to, which Landau holds sufficient to account for mobility on the right side, we may remember the position of the pancreas, which practically binds down the left kidney, and renders its dislocation much more unlikely than on the right side. The other facts I have mentioned clearly indicate a close relationship between frequent pregnancies and movable kidney, when occurring in women, as the main factor in producing the latter. Whatever influence the position and shape of the liver, under ordinary circumstances, may have, as believed by Newman, we must bear in mind that the shape of the liver and its relations are materially altered during pregnancy. It is then mainly composed of an upper and under surface, its anterior and posterior surfaces being reduced to very small proportions. The kidney then is almost unprotected by it, and protrudes below it to a much greater extent than in the normal condition. What influence this may have in facilitating displacement has still to be worked out. In any case, however, the sudden removal of the intra-abdominal pressure following on parturition leaves the kidney, as well as other organs, suddenly deprived of their accustomed support. In the upper and middle classes of society women usually retain the recumbent position for some time after delivery long enough to allow the abdominal walls to regain their firmness and elasticity. But among the poorer classes this is not the case; they leave their beds at an earlier period, while the parts are still lax, and a binder is but imperfectly applied. The result is that every opportunity is afforded to the internal organs to become displaced, and hence we find that movable kidney among the poorer classes is much more frequent than among the rich. Thus Newman[a] writes:—"The great majority of the patients whom I have seen suffering from these diseases were poor, and had been subjected to the conditions just mentioned. In many instances the pregnancies succeeded one another so rapidly that the mother had no time to recover between these periods, and consequently progressive emaciation resulted. In such cases the peritoneum becomes stretched and flaccid, its union with the posterior abdominal wall loosened, and by the flaccid condition of the anterior abdominal muscles, pendulous belly ensued; the intra-abdominal pressure was thereby reduced, and so the kidneys practically came to be suspended by their anatomical attachments, which were rendered unable to fulfil their function properly." In the twenty-one cases observed by Newman, nineteen were females, ten of whom had borne large families, and six suffered from pendulous abdomen. In A. W. Foot's monograph on the subject he mentions four cases of movable kidney which he had met with (without specially looking for it), all in women. Three were married and had borne children.

In women who have not borne children, and in men, we must seek for other causes of movable kidney. "A cause which seems to operate in many cases, and which is applicable to either sex, is a different and simpler modification in the anatomical arrangements of their surrounding parts [than the possession of a mesonephron], by which the kidneys may be rendered movable to a considerable extent—namely, the removal of the peri-renal fat in the progress of emaciating diseases, such as phthisis, or from less obvious reasons."[b] Riolan,[c] quoted by Foot, pointed out two hundred years ago the disappearance of the peri-renal fat as the cause of movable kidney. In 1857 Oppolzer noticed that in these cases the kidneys, when examined after death from other causes, were found to be healthy, but "there has been observable a deficiency in the cushion of fat and a lengthening of the renal vessels."

"There is little doubt," writes Newman,[d] "that an absorption of the fat surrounding the kidney will render the tunica adiposa more lax, and loosen the attachments of the organ, stretch the renal vessels, and permit undue freedom of movement and prominence of the kidney."

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[a] Op. cit. P. 27.

[b] A. W. Foot. Loc. cit. P. 389.

[c] Manuel Anatomique et Pathologique Lyon. 1682. P. 228.

[d] Loc. cit. P. 29.

Traumatisms occasionally are responsible for dislocating a kidney from its normal situation. A very interesting example was laid before the Medical Society of the College of Physicians of Ireland, in 1874, by Dr. W. B. Peebles.[a] A young married lady had a phaeton turned over upon her by a runaway horse. She was found underneath it, on her right side, insensible. She was kept in the horizontal position for a month. Two days after she was allowed up she was seized with symptoms of acute nephritis. Shortly afterwards she discovered what she called a "gizzard" loose in the abdomen, following the movements of the body. When it was near the stomach food passed in seemed to strike against it. When the upright position was assumed it fell downwards. It was tossed about by the movements of flatus in the bowels. There was "great agony" accompanying all these movements. The diagnosis made by those who saw her was a displaced kidney. It seemed probable that the edge of the vehicle, resting directly on the left side of the loin, had contused the deep parts against the spine, while a good deal of clothing and the cushion had saved the skin; that the kidney was then loosened in its bed, and that it dropped out afterwards when the upright position had been assumed. The diagnosis was confirmed a month later when suppuration occurred in the tumour, and was discharged with the urine per urethram. Recovery was subsequently complete.

At the same meeting of the Medical Society, Dr. Gerald Yeo related the case of a labouring man, aged forty-five, who had recovered from serious injuries caused by a cart passing over his loins. A year and a half after the accident his left kidney could be displaced by manipulation over the margin of the quadratus muscle, and could be seized through the abdominal wall as it lay under the ribs.

Morris[b] quotes from Henoch the case of a military officer who fell upon his feet from a horse, and suffered a violent concussion of his entire body; subsequently both his kidneys became movable.

The various causes enumerated above apply only to movable kidney. Floating kidney is essentially a congenital condition. The description I have given of it, as found in the case I have reported, is sufficiently characteristic. It may remain unobserved for years, giving rise to no symptoms, and some accident may be the first thing to call attention to its existence. I think it is highly probable that while the pedicle is short it may give rise to no inconvenience, but when as the result of hard work, or of repeated pregnancies, the mesonephron with its interposed blood-vessels becomes elongated, it begins to drag upon contiguous structures—as, for instance, upon the duodenum, and so gives rise to symptoms often of an acute character, which lead to its detection. Thus a floating kidney, like a movable kidney, may escape detection for years. Until the abdominal cavity is opened it is impossible to distinguish between the two forms. It is supposed by some that in the true floating variety there is a greater freedom of motion than in the movable, but this is not the case. In the latter variety, occasionally, "owing to the flaccidity of the peritoneum, the degree of mobility is as considerable as though the kidney possessed a long and loose mesonephron." [a] In the Report of the Committee of the Pathological Society of London,[b] Dr. Bindley's case is mentioned, in which the kidney was able to move under the peritoneum over a space described as a circle having a diameter of eight or nine inches. Thus a movable kidney may fall as low as the brim of the pelvis, or may lie immediately beneath the anterior abdominal wall, or may cross the spinal column to the opposite side. From a surgical point of view, there is an important difference between these two varieties of renal displacement. In the floating variety it is impossible to reach the kidney without opening the peritoneum, whilst the movable kidney can generally be reached from the loin without in any way injuring this membrane. But from a clinical and diagnostic standpoint, the two varieties are indistinguishable. Therefore, in referring to the symptoms produced by movable kidney, it will be understood that the same reference applies to floating kidney also.

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[a] Dub. Med. Journal. 1874. Vol. LVII., p. 338.

[b] Surgical Diseases of the Kidneys. 1885. P. 30.

In a large number of cases movable kidney gives rise to no symptoms whatever. In such cases the pressure of the mobile tumour is accidentally discovered by the patient or by the medical man whom she consults for some other ailment. The nature of the tumour is made out then by the physical signs and by the history of the case. The tumour generally presents the outlines of the kidney. The hilum may be felt. It is firm, smooth, and generally insensible, or very slightly sensible to pressure. It i for the most part painless. Sometimes, however, a dull, draggin pain is experienced, or it may come on in severe paroxysms resembling renal colic; if the kidney is then pressed upon c manipulated, a sickening sensation or a "fainting pain" is experienced, which is very characteristic. The tumour, which can b moved freely about, can in general be made to disappear int the hollow of the loin, into the normal situation of the kidney this sign is almost pathognomonic of movable kidney. It i also possible sometimes not only to make out the shape of th kidney and the hilum, but to recognise the pulsation of the rena artery as it enters the concave border. I have had for twelve year a patient under observation, who possesses a freely movable kidne on the left side, which produces no symptoms or inconvenienc whatever. The kidney can be freely moved about even across th middle line and down to the line joining the anterior superior spin to the umbilicus. The shape can be easily mapped and the pulsations of the renal artery at the hilum are perfectly distinct an easily felt. In general, when the kidney is displaced, a depression can be recognised in the loin in the position usually occupied by the kidney. Percussion is unreliable, as it is impossible to eliminate the coils of intestine which may lie in front of the kidney, and which may give a clear note.

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[a] Morris. Loc. cit. P. 26.

[b] Transactions Pathological Society of London. Vol. XXVII., p. 473.

In the majority of cases it is true that movable kidney gives rise to little or no trouble, but in some, at any rate, it may become a source of great discomfort or danger. Thus Keen[a] writes:—"The discomforts are very great, and the pain may be so excessively severe and prolonged as to interfere with all occupation, and practically to make life almost unendurable. . . . The disorder may pass beyond the realm of bearable evils into serious and actual danger to life itself, so that in considering the slight mortality from nephrorrhaphy, we must also bear in mind that there is a mortality attending the expectant treatment as well." Professor Le Dentu,[b] of Paris, says:—"The suffering is sometimes so acute, that life becomes nothing but an endless torture."

These severer symptoms are many and various. The most frequent of these have reference to the stomach. There may simply be gastralgia and dyspepsia, accompanied by a dragging pain and sensation of weight in the affected side of the abdomen.

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[a] Transactions American Surgical Association. 1890. Vol. VIII., p. 184.

[b] Surgical Affections of the Kidneys and Urethra. 1889. P. 581.

The gastric disturbances may become severe and acute, as in my patient. The pain steadily increases until it becomes intolerable and agonising. Vomiting frequently follows, either of food recently taken or of a green-looking fluid. M. Mathieu[a] recently stated at the Société Médicale des Hôpitaux that he had observed some patients in whom there had been very severe attacks of vomiting some ten or twelve times a day for a fortnight or even more. There was a strong resemblance to some of the gastric crises of locomotor ataxy. There was severe abdominal pain, and in a few cases such gastric dilatation as to suggest a temporary constriction of the pylorus.

Many theories have been offered to explain the occurrence of these gastric crises. Bartels[b] considered that where the right kidney was displaced and came in contact with the second portion of the duodenum, the compression might be sufficiently strong to cause dilatation of the stomach. This is the view M. Mathieu[c] adopted at the meeting of the Société Méd. des Hôpitaux, and M. Legendre supported him in the discussion.

Newman[d] does not believe that these symptoms are caused simply by direct pressure, "for we know that large tumours may exist and move freely within the abdominal cavity without causing much reflex disturbance; it is more probable that they are due to dragging upon the renal vessels and nerves."

Morris[e] declares that these gastric crises are caused "by the dragging or pressure of the kidney upon the middle portion of the duodenum."

Now in the case I have reported, I think, we find the simplest explanation of these gastric crises. It may not, of course, be universally true. It may be possible for the kidney to roll over on to the middle portion of the duodenum, and so compress it; but anatomically this is not likely. When we remember the intimate connection between the under-surface of the liver and this portion of the duodenum, it is difficult to understand how the kidney could insinuate itself between the two, in order to compress the latter. But there may be, as my case shows, a sufficient connection between the duodenum and the kidney, so that every movement of the latter more or less influences the former. A slight degree of traction would probably affect the duodenum inappreciably, but when the kidney descends as low as I found it—that is, below the level of the umbilicus in front—it drags the vertical portion of the duodenum with it, and so causes it to kink at the angle where the first joins the second portion, and thus more or less completely occludes it. This condition was clearly demonstrated in the case I have reported. It is easy, when such a condition holds, to understand the severe gastric crises which may ensue, and which disappear as "the lump" sinks back into its normal position.

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[a] Le Progrès Méd. Oct. 29, 1892.

[b] Journal de Médecine et de Chirurgie Pratiques. 1884. T. LV., p. 394.

[c] Op. cit.

[d] Loc cit. P. 39.

[e] Loc. cit. P. 31.

The same dragging or pressure on the vertical portion of the duodenum will explain in most cases another symptom which occasionally is found in movable kidney—namely, the occurrence of jaundice. Were the traction or the pressure sufficiently great to close the intestine it would easily follow that the common bile duct would easily share in the obstruction. That jaundice is less frequent, certainly not as common as the gastric disturbances, would follow as a matter of course, for it would require but a comparatively short period of obstruction in the duodenum to induce severe gastric symptoms, whilst jaundice would only follow on a prolonged obstruction of the bile duct.

Newman[a] attributes the jaundice, in a case observed by him, to catarrh of the bile duct, or to gall-stone; and Lindner[b] supposes it to be due to reflex spasmodic stricture of the biliary ducts.

In addition to the symptoms ennumerated above, there are other symptoms which call for mention—such are the neuralgic pains in the loins, starting down the thigh, or along the groin of the affected side. Defontaine has reported the case of a patient in whom pressure over the displaced kidney occasioned an immediate echo at the meatus and a sense of weight in the scrotum; and Professor Le Dentu mentions the case of a lady who complained of a sensation at the neck of the bladder the moment he laid his hand over the site of a dislocated kidney. For diagnostic purposes it is well to bear in mind another characteristic of the sufferings induced by movable kidney. In a large number of cases the symptoms become more accentuated and severe immediately before and during the catamenial periods.

Hydro-nephrosis is not an infrequent complication of movable kidney. "When the kidney drops forward or downwards, as after long standing or sitting, the course of the ureter becomes so deflected and curved upon itself that the urine cannot flow along it; and this temporary obstruction, frequently repeated, leads at length to a permanently distended state of the renal pelvis."[a] Thus what at first may lead only to temporary or intermittent hydro-nephrosis may ultimately result in serious disorganisation of the renal structure itself. In Newman's 21 cases, he found intermittent hydro-nephrosis in 4, and albuminuria in 5.

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[a] Op. loc. cit. P. 39.

[b] Deutsche med. Wochensch. 1884. No. 15.

Knowsley Thornton[b] reports a case of double hydro-nephrosis due to mobility of the kidneys, and states that torsion of the ureter may give rise to uræmia.

This rotatory power of the kidney in its mobile state may not only obstruct the ureter, but may produce torsion of the vessels. The symptoms accompanying this latter condition resemble those which indicate torsion of the ureter, in the sudden diminution in the quantity of urine, the renal pain, the vomiting, the persistent headache, and even uræmic symptoms; but in torsion of the vessels, as the blood flowing through the kidney is shut off, there is no increase in the size of the kidney by retained secretion. The flow of urine which succeeds replacement of the kidney in its normal position is copious; but it is of a high specific gravity, instead of low, as from a transitory hydro-nephrosis (Newman).

In the majority of cases of wandering kidney the diagnosis can be easily arrived at. A tumour of the shape and consistency of a kidney, which can be pushed easily from below upwards, and made to disappear completely into the lumbar region, is sufficiently characteristic. When its reducibility is, however, not complete, the diagnosis is not so easy, and the tumour may be easily confounded with a tumour of the liver, of the spleen, of the ovary, or, more frequently still, of the mesentery. A kidney which has been mobile for a length of time may, owing to the pressure or traction which it exerts upon neighbouring structures, set up inflammatory action, which leads to the formation of adhesions, and consequently changes the movable into a fixed displaced kidney. In such cases much assistance in the diagnosis may be obtained by a careful attention to the previous history. But even in movable kidney mistakes have been made. Dr. A. W. Foot,[c] in his admirable paper on the subject, quotes the case of a woman in whom attempts had been made to restrain the motion in a floating kidney by passing a tape seton through the walls of the abdomen and the tumour. "Some hæmaturia was noticed after the operation. After three months the seton broke and came away. Four years after, the kidney was removed successfully, the organ was found in the umbilical region, a deep cicatrix, about two and a half inches long, marked the track of the seton. The patient was an Irishwoman, aged thirty-five. She had been eight years affected with a pain and tumour in the right side, and, the report says, she had undergone 'the usual operation for ovarian tumour without removing the cause of her trouble.'" Prescott Hewitt relates the case of a woman, aged seventy-three, in whom a hard tumour, the size of the fist, lying in the right iliac fossa, had, on three separate occasions, been detected by medical men. Although the patient had for several years before her death passed bloody urine, alkaline and full of mucus, the diagnosis was made of a fæcal accumulation. At the autopsy, the tumour was discovered to be a movable kidney, containing one large and two small stones in its pelvis.

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[a] Morris. Surg. Diseases of the Kidney. 1885. P. 32.

[b] Surgery of the Kidneys.

[c] Loc. cit. P. 393.

In Keen's tables of nephrorrhaphy there are two cases in which a distended gall bladder was present as well as a movable kidney. In one of them, Mear's case, the movable kidney was found through the lumbar incision, and stitched into position, and then cholecystotomy was performed, and the opening in the gall bladder stitched below the kidney in the lumbar wound. In the other, Tischendorf's case, the mobile kidney was discovered during the operation for gallstones. Mr. Lawson Tait[a] has published a case of distended gall bladder upon which he successfully operated, but which had been diagnosticated as a floating kidney "by several distinguished authorities."

M'Cosh[b] relates two cases in which dilatation of the uterine cavity and removal of the ovaries had been the preliminary and ineffectual methods of relieving a woman of symptoms which entirely disappeared after the performance of nephrorrhaphy.

The treatment of movable kidney will depend upon the nature of the case we have to deal with. In the large number of cases which present no symptoms, in which the mobility of the kidney has, perhaps, been discovered by accident, it will be unnecessary to do more than to advise the patient to wear a binder. An elastic to support the abdomen will generally suffice. In some cases, the symptoms are not sufficiently acute to require operative nce, or where, for other reasons, an operation is contra- it may be necessary to afford greater support to the he most serviceable, and, at the same time, the least apparatus is a wide, elastic belt, supplied with an ver pad, to lie over the region of the kidney, and which e distended by insufflation, as required by the circumstances of the case.

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[a] Brit. Med. Journ. Nov. 18, 1882.

[b] New York Med. Journ. March 15, 1890.

In some cases, however, the symptoms are very severe, and no relief is obtained by any external support—indeed, sometimes pressure seems to increase the patient's sufferings; or, again, the conditions required to obtain relief may be so elaborate and irksome as to render life miserable; then it becomes the duty of the surgeon to consider what means his art can supply to relieve the distress and to cure the patient. The first attempt to deal radically with this condition was in 1878, when Martin, of Berlin, performed the first nephrectomy for a painful movable kidney. Since then the operation has been performed a sufficient number of times to enable us to estimate its value. Lindner[a] has collected 36 cases of excision for movable kidney, of which 9 died, a mortality of 25 per cent. Newman[b] gives a table of 30 nephrectomies for this ailment, of which 9 died, a mortality of 30 per cent. He observes that in 17 cases the excised kidney was normal. These statistics show that, as regards risk to life, nephrectomy possesses a bad record. It is far more dangerous than nephrorrhaphy, as will appear when we consider this operation. Nephrectomy has the disadvantage, moreover, of removing what may be, and very frequently is, a perfectly sound organ; at the same time, the other, or fixed, kidney may be disorganised. In certain cases, excision of the kidney may be justifiable, and even necessary. If, for instance, the movable kidney is at the same time diseased, and, perhaps, useless, or if it be impossible to push it back into its proper position in the loin, or if nephrorrhaphy have been attempted and has failed, removal of the organ may be the only resource left to us.

Three years after Martin had first performed nephrectomy for movable kidney, Hahn[c] published his first two cases of nephrorrhaphy, or fixing the kidney into its proper position by means of sutures. Since then this operation has been done a number of times, and has almost entirely, except under special conditions, superseded the operation of excision, on account of the successful results obtained, the small death-rate attending it, and because it retains for the patient the use of an important organ.

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[a] Wanderniere der Frauen. P. 45.

[b] Loc. cit. P. 65.

[c] Centralblatt für Chirurgie. July 23, 1881.

In order to reach the kidney, with the object of suturing it into its normal position, two methods may be adopted. First, it may be reached through the lumbar incision—that is, an incision beginning over the outer edge of the erector spinæ muscle, immediately below the twelfth rib, and extending obliquely downwards and forwards for about four inches. Secondly, the kidney may be approached from the front through a vertical incision in the linea semilunaris, as recommended by Langenbuch. The former is generally to be preferred, as in most cases of mobile kidney the organ can be found and sutured in position without opening the peritoneum. In cases of floating kidney, however, as the kidney possesses a mesentery and lies within the peritoneal cavity, it cannot be dealt with without incising the peritoneum. It matters very little whether this serous cavity is opened in front or behind, but the anterior method has the advantage of allowing a more thorough examination of the affected kidney to be made, and in case it be diseased, to discover the condition of the other organ as well.

Four methods have been employed for fixing the kidney in the loin.

M'Cosh[a] thus summarises them :—

1. The sutures may be passed through the adipose capsule alone.
2. They may be passed through the fibrous capsule of the kidney itself.
3. They may be passed through the parenchyma of the kidney.
4. The fibrous capsule may be partially stripped off the kidney in order to obtain a raw surface of renal tissue, by means of which the adhesions, it is believed, would be firmer. The sutures are then passed through the parenchyma and capsule, just inside the border of the raw surface. This is the method recommended by Jordan Lloyd.

Of these various methods it would appear that the best results are obtained when the parenchyma of the kidney is included in the suture, or when the capsule is partially stripped off.

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[a] New York Med. Journal. March 15, 1890. P. 281.

Of the material for suture, catgut has been practically discarded on account of its becoming absorbed before the adhesions have become sufficiently strong to retain the kidney *in situ*. Kangaroo tendon has been proved reliable in the hands of Gould and Morris. Aseptic boiled silk has been used by Keen in his cases, and "it has answered admirably."

Tillmanns,[a] who always passes the sutures through the kidney substance itself, employs both silk and catgut. He incises the capsule, and strips it partially off the renal substance. The free edges of the capsule are sutured to the wound in the loin by one catgut and one silk suture, and then a second catgut and a second silk suture penetrate the parenchyma of the kidney and secure it to the wound. These sutures through the perenchyma do not seem to cause any trouble. Occasionally a little blood is noticed in the urine for a few days, but it soon disappears. Tillmanns objects to the use of silkworm gut, as it cuts through the tissues too quickly, and thus after its use a return of mobility is facilitated.

The wound in the loin is generally healed in eight to ten days; but it is advisable to keep the patient in bed in the horizontal position for a much longer period—about six or seven weeks—so as to afford time for the adhesions to become firm.

By these means a complete cure can be obtained, and the kidney be firmly secured into its normal position. An interesting case in point is published by von Langenbuch.[b] Some months after the performance of nephrorrhaphy for a movable kidney, the patient slipped down some steps, and in consequence of this accident the kidney was apparently again displaced. Upon opening up the original incision, von Langenbuch found that the kidney, which had been fixed in position by four silk sutures, was so firmly retained *in situ* that it had not been displaced by the accident, but the tumour which was found was the displaced lobe of the liver.

The mortality attending nephrorrhaphy is exceedingly small. In 134 cases collected by Keen[c], four died, giving a death-rate of 2·98 per cent. The causes of death in these four cases were—

1st. Ceccherelli's case, in which he resected the eleventh and twelfth ribs in order to get more room, and in so doing wounded the pleura. The patient died in forty-five hours of atelectasis and pleural effusion.

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[a] Deutsche Zeitschrift für Chirurgie. Band 34. 1892. P. 628.

[b] Deutsche med. Wochenschrift. 1889. Band XV., s. 16.

[c] Loc. cit. P. 196.

2nd. Hahn's case, where death was due to an unrelieved ileus, and not to the operation.

3rd. Von Langenbuch's case, in which one of the stitches passed through an old embolic infarct in the kidney, which caused death from septicæmia in three days.

4th. Lawson Tait's case, where death resulted from suppuration, presumably the result of the operation.

In reference to this last case, Keen writes:—"Mr. Tait has operated upon but three cases, one of which, he writes me, ultimately died from the suppuration following the operation, and the others were not benefited in the least; and he declares (*British Med. Journal*, Nov. 16, 1889) that he will have nothing more to do with the fixation of the kidney."

Tillmanns[a] has operated sixteen times by nephrorrhaphy. Of these one died fifty-two days later of concurrent pulmonary phthisis, and death was in no way due to the operation. All the others recovered.

It thus appears that, as regards risk to life, nephrorrhaphy may be regarded as safe an operation as any in surgery.

As regards the results obtained, Tillmanns' cases have the advantage, from a statistical point of view, of having been all performed by the one surgeon. He has been able to follow twelve out of the sixteen cases closely. Of these twelve, six cases were found to have been completely and permanently cured when examined at periods varying from one to three years after the operation. Of the six remaining cases one died of phthisis forty-five days after the operation, and at the autopsy the wandering kidney was found to have contracted firm adhesions to the loin. In three cases no displacement of the kidney was subsequently discovered, but symptoms of "traumatic neurosis" continued. In two cases the kidneys relapsed into their mobile condition. Tillmanns explains these relapses, one being due to the use of silk-worm gut, which cut through the tissues too rapidly; the other to the fact that the patient returned too soon to her work, before the adhesions could have become firm.

In Keen's tables of 134 cases, of which sufficient details were given in 121, there were, after three months, 52 per cent. cured, 17·3 per cent. improved, and 15·7 per cent. were failures.

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[a] Loc. cit. P. 650.

ART. X.—*The Influence of Public Cleansing on the Mortality of Towns.*[a] By D. EDGAR FLINN, D.P.H., F.R.C.S., M.R.C.P.; Examiner in State Medicine, Royal Colleges of Physicians and Surgeons, Conjoint Examining Board, Ireland; Surgeon, St. Michael's Hospital, Kingstown; late Medical Officer of Health, East Staffordshire.

A DISTINGUISHED sanitarian describes the process of public cleansing as "the immediate removal of all matter liable to pollute earth, air, or water." The word immediate has a pronounced significance here, for in the immediate removal of towns' refuse and filth lies the essence of the benefits to be derived from public cleansing. No system of town cleansing, be it either public or domestic, can be maintained or efficiently carried out, unless it be undertaken solely by the Sanitary Authority, for according as our towns grow and dwellings increase in number, so much more difficult does it become for individual householders to dispose of their refuse. Again, it is a self-evident fact that the habits of the occupiers of tenement dwelling-houses are a source of difficulty in the cleansing of all towns, be they large or small, and it is unreasonable to expect people to be cleanly in their habits unless certain facilities are offered them, and their houses and surroundings kept in a tolerable state of cleanliness by the corporate body. Of course in this question of public cleansing the situation of a town, its water supply, the method of sewerage, the habits of its population, are each and all of them more or less determining factors in the successful carrying out or otherwise of a particular plan.

It is an established fact that all our great epidemics have their origin in the laneways, court-yards, and alleys of our towns, and these are especially the localities where public cleansing and scavenging should be systematically and daily carried out. These places are generally the homes of our errand-boys, dairymen, van-drivers, porters, and such like, and the dwellings and surroundings of this class of the population should be maintained in as healthful a condition as possible. When localities of the kind I have mentioned preserve a low rate of mortality, it follows that the dwellers in the better quarters of a town have a corresponding immunity from sickness and diseases, more particularly of an infectious character.

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[a] Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland, on Friday, February 10, 1893. [For the discussion on this paper see p. 265.]

Unless it be in purely agricultural districts, it may be laid down as a rule that no appearance of truly local cleanliness can be maintained unless public scavenging, removal of house refuse, as well as the sewerage, is organised and carried out under the management and direction of the sanitary authorities. This in recent years has come to be an acknowledged fact, and the daily removing of house refuse is now in a large majority of towns in Great Britain recognised as one of the most important duties of the health department. To this system of public cleansing the reduction of both the general and zymotic death-rate is in part attributed. Previous to the inauguration of the system of public cleansing and domestic scavenging now carried out by the Dublin Corporation, the cleansing of ash-pits, &c., was undertaken by persons who contracted with householders for the removal of such refuse matter. This refuse was stored in laneways and yards, until it was sorted of its bones, rags, cinders, &c. These manure depots were scattered all over the city, and large areas of polluted soil was the result. This system had been going on for years, and no doubt it contributed to the propagation of infectious disorders, and helped materially to increase the death-rate. Nor was this system peculiar to Dublin—other large towns in Ireland, such as Belfast, Cork, Limerick, Waterford, tolerated this vile and objectionable method of filth collection; a method, too, which gave to the Irish towns a reputation for uncleanliness which was becoming proverbial. It is a matter of notoriety that since the entire scavenging and cleansing of the City of Dublin, both public and domestic, was undertaken by the Corporation, the rate of mortality from diseases of a zymotic nature has visibly decreased. Nottingham, Oldham, Plymouth, Newcastle, have similar experience.

Sir Charles Cameron, our zealous and distinguished Medical Officer of Health, in his last-issued Annual Report on the state of the public health in the city of Dublin, recognises the great advantage of public cleansing and filth removal. He says:—"There are few points in the sanitation of towns of so much importance as that of filth removal. It is of especial importance in Dublin. A large portion of the city is situated upon low-lying situations, and upon gravel and other sorts of slight coherence. In such soils filth largely accumulates, and gives off offensive emanations into the overground atmosphere. The great sources of the filth of soils are the privies and ashpits; their contents leak into the ground and stagnate therein. Every year we succeed in getting privies abolished and water-closets substituted therefor; and it is to be hoped that in a few years Dublin will be as free from privies as Edinburgh now is. I know of no sanitary work more important than this daily cleansing of the yards and sanitary accommodation of the tenement houses."

The Medical Officer of Health for Kingstown, Dr. Byrne Power, also attributes the decrease in the zymotic death-rate of that town to the inauguration of a system of public and domestic cleansing wholly undertaken by the Sanitary Authority, the average zymotic death-rate for three years being only 1·1. In a recent Report he states that "the zymotic death-rate has been on the decline—a fact that I can only account for by the introduction of an ably-organised system of filth removal."

The Belfast Corporation has recently undertaken the systematic removal of refuse from the dwellings of the inhabitants, and, according to the Report of the Medical Officer of Health for Belfast (Dr. Whitaker), the system has been attended with the best possible results, and is already having an influence on the health of the city. I have been favoured with a copy of the Report for the year 1892, of the Executive Sanitary Officer of Belfast, Mr. Conway Scott, C.E. A system of public cleansing was inaugurated in Belfast only in the commencement of last year. In his Report, the Executive Sanitary Officer mentions that so great was the amount of refuse that it took nearly four months to give the city its first regular cleansing, the cost being £2,169. Mr. Scott says that the sanitary effect of the regular removal of such a mass of refuse matter must be beneficial to the public health, and he asks the pertinent question—"What became of the mass of refuse matter in former years? One thing is certain, the great portion of it never left the city." The same question might be asked as regards Dublin—"Where did the vast volumes of rubbish and filth, collected in former years, before the Corporation undertook public cleansing, find a *locale*?" Three-fourths of it never left the precincts of the city. The idea forcibly suggests itself that some of the foundations of our newly-made streets in the northern and southern districts of the city may be in great part composed of this combination of rubbish, &c.—surely an insanitary foundation, and one that may tell its tale in the years to come. The zymotic death-rate for Belfast averaged for the ten years ending 1891 3·5; in Dublin during the corresponding period the zymotic death-rate was 3·3.

In Cork, also, a system of public and domestic cleansing has for some time been put in operation, and the daily collection of house refuse is now undertaken by the Corporation; it has not yet been sufficiently long in working to speak of its merits, or the benefits accruing from its inception, but the death-rate from zymotic diseases is below the average in Cork, the rate being returned as 1·3 per 1,000 per annum.

Londonderry and Limerick both show a low zymotic death-rate for the year 1891, the former being 1·2 and the latter 0·9 per 1,000—in both cities improved methods of public cleansing have been in operation for some time.

The Royal Commission that sat at Dublin in 1879, under the presidency of Sir Robert Rawlinson, C.B., and Dr. Francis Xavier MacCabe (now Sir Francis MacCabe, the eminent Medical Commissioner to the Local Government Board), commented in anything but complimentary terms on the then existing public cleansing and scavenging arrangements in the city, and one of their recommendations was that the entire cleansing and scavenging of Dublin, both public and domestic, should be undertaken and carried out by the Corporation; this recommendation bore good results, and the aspect of our capital has visibly improved since the civic authorities undertook this responsibility.

The general death-rate has not diminished to any appreciable extent, but the zymotic death-rate bears very favourable comparison with that of other large cities; of course, it is evident that public cleansing is only one of the many reforms of a sanitary nature that go to assist in making towns healthful; the system of drainage is also an important factor, and, no doubt, when the main drainage system is an accomplished fact in the city of Dublin, it will assist materially in diminishing the death-rate, both zymotic and general.

A word now as to the necessity of active measures in public cleansing. The immediate removal of all refuse and filth is the most essential element in the public cleansing of towns. Even to deposit refuse temporarily on the ground is dangerous, as the atmosphere of the dwellinghouse is very much affected by the state of the atmosphere of the soil near it. If the soil near a dwelling is allowed to become impregnated with refuse and filth, which is so often cast out of houses of the tenement order, the air must naturally become polluted, and will carry the germs of many diseases to houses at a distance; public cleansing, then, cannot be too strictly enforced, and its thorough administration becomes year after year more apparent and more necessary for the health of the people and the prevention of disease.

The daily door-to-door collection at a stated early hour each morning, by means of portable dust-bins, supplied by the authorities, and large enough to contain the refuse collected during the twenty-four hours, is a system working well in a large number of towns. It is certainly a vast improvement on the system of emptying all house refuse into an open ashpit in close proximity to the dwelling-house, where a fermenting mixture of dust and vegetable and animal matter is permitted to remain for a long period, creating a public nuisance and a danger to the health of a neighbourhood.

The portable pail collection of house refuse should be enforced by every sanitary authority, for it appears to be the best and readiest system, each householder above a certain rating being supplied with a pail at a small charge, and the poorer class of houses being supplied with them free of cost. In small courtways one large pail could be placed in a convenient position, and would suffice for three or four cottages, or fixed ash-bins in tenement yard, capable of holding the dry refuse of eight or ten houses, and cleaned out daily, is a good and useful alternative; in fact, this would be preferable to having a number of bins, and would render it easier to keep a courtyard or laneway in a cleanly condition. These should be emptied each morning by the Corporation at a certain hour.

Vegetable refuse is a difficulty, and all sanitary authorities have more or less to contend with, as vegetables form an important part in the diet of a great majority of the people, the trimmings and parings of vegetables, fish, fruit, and the like, constituting a most unwholesome form of nuisance, and requiring to be promptly dealt with. Regarding this class of refuse, it is of the utmost importance that authorities should insist upon its immediate removal, as it is a prolific source of disseminating foul and offensive odours, more especially when allowed to remain for any length of time exposed to the atmosphere, and is a menacing danger to the public health.

The pail system of daily refuse removal from the houses of the poorer classes is of decided advantage, more especially if the water system of removal of excreta is not available; this system answers admirably in some large towns in England and Scotland—notably Leeds, Nottingham, Rochdale, Glasgow, Edinburgh; it is a matter for regret that the pail system has not found more favour in

Ireland; it has apparent advantages, and might be applied to a number of small towns in Ireland with great benefit, and its adoption would be speedily followed by a decrease in the number of those diseases which go to augment the death-rate in most of our Irish towns and villages.

To aid in the fulfilment of the benefits to be derived from public cleansing, the domestic cleansing of the houses of the poorer classes is a necessary adjunct, and they must be taught that the initial principles of sanitary work commence in the individual house; the destruction of the first germ of disease is of the utmost importance, and it is to the houses of those resident in the courts and laneways of our cities and towns that the lesson should be taught, that national health lies in the individual cleanliness and surroundings of the house and its inmates. Take the home of a steady, industrious artisan, and note the air of cleanliness existing there; note the cleanly wife and mother, and inquire have they had much illness in their midst, whether they have lost any of their children by any of the infectious disorders (whose abode is always to be found in the midst of filth and overcrowding), and you will most likely be answered in the negative; but pay a visit to the next door neighbour, whose children betoken the little care that is bestowed on them, and you will find all the elements of domestic cleanliness absent, and King Filth reigns supreme. Truly may it be said that "the web of our life is of a mingled yarn, good and ill together;" and our homes are liable at any moment to be invaded with a malady contracted or borne perhaps from the bylanes or courtways close by. Hence it is vitally important that our poor neighbours should have every advantage offered them to keep their homes and surroundings in a sanitary state.

ART. XI.—*The Treatment of Pulmonary Consumption in Special Hospitals and Dispensaries.*[a] By JOHN KNOX DENHAM, L.R.C.P.I., L.R.C.S.I.; Medical Officer, Donnybrook Dispensary; Surgeon to Dublin Orthopædic Hospital.

THERE is no doubt that the views of the inevitable character and the incurability of pulmonary consumption are now altered, and it is admitted that phthisis is both preventable and curable. Although pulmonary consumption carries off, at ages between fifteen and forty-five, more than one-third of the people who die, and between fifteen and thirty-five nearly one-half, yet the Registrar-General's Reports show that in the last 30 years the annual rate of mortality from phthisis has been reduced by more than one-third. Notwithstanding this enormous death-rate, there is no efficient machinery at our disposal to cope with it.

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[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, January 27, 1893. [For the discussion on this paper, see page 263.]

A very large proportion of the patients suffering from pulmonary consumption come from the poorer classes, and in Dublin every dispensary is crowded with such cases; and I purpose very shortly to review the methods adopted in Dublin in dealing with such cases, and to inquire if those methods are the best available.

No feature in the modern treatment of consumption has received so much attention—and deservedly so—as that which involves on the patient residence abroad, and the literature on climatic treatment is large and exhaustive. A sea voyage or a winter in the south of France is reserved for rich people, and my remarks apply only to the treatment of the poor. In treating poor consumptives, we are limited to the following:—1. We can treat them as out-patients at the dispensaries. 2. We can treat them as in-patients in the large general hospitals. 3. We can treat them at their own homes.

In the first place, we all know that the amount of work to be done at a dispensary is very great; that the pressure on the time of the physician is seriously felt. In the majority of tubercular patients at the dispensary serious symptoms, such as pyrexia, hæmoptysis, diarrhœa, are present, together with some cases of early or even doubtful tubercular nature; and from my experience in connection with general dispensaries, I am satisfied that such patients cannot be expected to receive adequately the special consideration their cases deserve. Further, the waiting-rooms of most dispensaries are, in my opinion, not at all suitable for serious tubercular cases to be kept waiting in, often for a very considerable time, especially when we remember that they are crowded with numerous other patients. I have never seen any special care taken in dispensary waiting-rooms to provide disinfecting spittoons, nor am I aware that any special disinfection of the waiting-rooms is a routine.

Secondly, patients suffering from pulmonary consumption are treated as in-patients in our large general hospitals. I would observe that from inquiries I have made, such patients are admitted as seldom as possible, unless very urgent symptoms are present, or they are strongly recommended by friends of the hospital. In clinical hospitals it is obvious that to have a preponderance of tubercular patients would not do; besides, from our present knowledge of the peculiar requirements of such patients, it is doubtful whether they are greatly benefited by being treated in a general ward.

As an example, the highest authorities on the subject lay down that each patient should have a fresh supply of air entering at the rate of 4,000 cubic feet per hour, at 62° F., independent of windows and fire-places, also that means should be supplied to carry off the foul air through extracting flues built in the walls. It is considered essential that as much sunlight as possible should be obtained; this is provided by glass verandahs, &c. An exceptionally liberal diet is another essential. Independently of the views that may be held regarding the undesirability of placing patients with pulmonary consumption in a general ward, it is evident that none of the wards of Dublin hospitals, as at present arranged, fulfil the modern requirements necessary to the successful treatment of such patients.

I do not intend to touch further on the subject of a special hospital, because that is in a fair way of accomplishment. I am informed that the hospital is to be built in or near the Vale of Ovoca. This decision I deeply deplore, for I feel that it will benefit Dublin only slightly, and the patients will be deprived of the advantage of treatment by the most eminent physicians.

Parenthetically, I might state that the subject of special hospitals for consumption was fully discussed at the Tenth International Medical Congress in Berlin.

Dr. Philip, of Edinburgh, in a letter to me some little time ago, says, everything points to the advisableness of a consumption hospital being placed on suitable ground near rather than within the city. As you know, this was the unanimous view adopted at an immense meeting of the Medical Section of the Tenth International Congress at Berlin, 1890, when representatives of all nations made communications. Comparatively recently Professor Leyden has induced the medical authorities of Berlin to combine together for the founding of special hospitals for consumption, and Austria has taken the same move, under the leadership of Prof. Schröetter, who is arranging for the building of one or more such hospital in or near Vienna. Accepting this as a correct statement of fact, it disposes of all argument against a special consumption hospital, based on grounds of our being over-hospitaled, or that such an institution would tend to starve existing charities. If we decide that a special hospital is a necessity for our sick poor, I have no fear but that the money necessary will be gladly subscribed without injuring any existing charity.

Now as to the treatment of the patient in his own home. It is here that our greatest difficulties face us. No matter what development may take place on the lines of special dispensaries or special hospitals for many years to come, the majority of patients will have to be treated in their own homes. It is unnecessary for me to say much about these homes of the poor in our city and suburbs, and, without in the least underrating the splendid work done in the city both by the Corporation and other bodies in improving the dwellings of the poor, still no artisans' or labourers' dwelling give a consumptive the best chance.

So seriously is the physician handicapped, that, while doing his best for the individual patient, his main efforts must be made in the direction of protecting the other members of the family, and doing his best by the adoption of stringent hygienic measures. A patient suffering from scarlatina, a disease which has a trivial death-rate compared with that of consumption, is treated as a very dangerous individual; we isolate him, we disinfect him and his dwelling, and destroy his bedding and clothing. Yet our consumptive patients are allowed to suffer and die, without any means being taken to prevent the disease spreading from the infected area and infected dwelling.

Having briefly, and in a very fragmentary manner, shown the means at our disposal for the treatment in Dublin of pulmonary consumption, I will conclude by offering the following deductions for the consideration of this section of the Academy.

I am of opinion that a special hospital for consumption, in or near Dublin, is necessary, and I deplore the decision to place it at such a distance from the city.

Consequently, I believe that we urgently require a properly equipped dispensary in the centre of the city for the special treatment of diseases of the chest.

Also, that to the management of the Queen's nurses for the sick poor a special representation should be made, urging them to direct that particular attention should be paid by their nurses to the laws governing the prevention of consumption.

And finally, that if pulmonary consumption is to be eradicated from our midst, which I believe to be ultimately possible, it must, and can only, be done by the most energetic action on the part of sanitary authorities, treating pulmonary consumption as one of the most dangerous of infectious diseases.

ART. XII.—*Some Recent Clinical Experiences.*[a] By JOHN WILLIAM MOORE, B.A., M.D., M.Ch., Univ. Dubl.; Censor and Vice-President, R.C.P.I.; Physician to the Meath Hospital; one of the Professors of Practice of Medicine in the Royal College of Surgeons in Ireland.

DURING a recent period of clinical duty at the Meath Hospital, lasting from October 1 to December 31, 1892, an unusual number of interesting cases came under observation. It occurred to me that a selection from these would be acceptable to the Royal Academy of Medicine in Ireland, because, while they are no doubt types of the every-day clinical experiences of a hospital physician, the cases throw more or less light upon obscure features in diagnosis and pathology, and illustrate some practical points in treatment. The cases are as follow:—

1. Axillary Abscess in an Infant, simulating Scarlatina.
2. Septic Peritonitis from Rupture of a small Ovarian Abscess.
3. Retro-pharyngeal Abscess in a Man aged 45 years.
4. A Case illustrating the short Incubation and Invasion of Scarlatina.
5. Thoracic Aneurysm perforating the Pericardium.

CASE I.—*Supposed Scarlatina.* (Reported by the probationer on duty in the epidemic wards, Miss Frances E. Robb).—The patient, J. D., a tiny baby of a fortnight old, was admitted to the observation ward of the Meath Hospital on the evening of November 11, 1892, supposed to be suffering from scarlatina. He was discharged perfectly well on November 25th. His mother is a fragile-looking young woman of twenty-four years, and her only other child pined away and died when three months old from no apparent disease of any kind.

The previous history of the case is slight, but the mother had heard of no cases of scarlatina in the neighbourhood, and cannot understand how the baby is supposed to have taken it, or where. Two days ago the patient appeared restless and very fretful, crying at night and during the day as though in pain. Appetite continuing as usual, and there being

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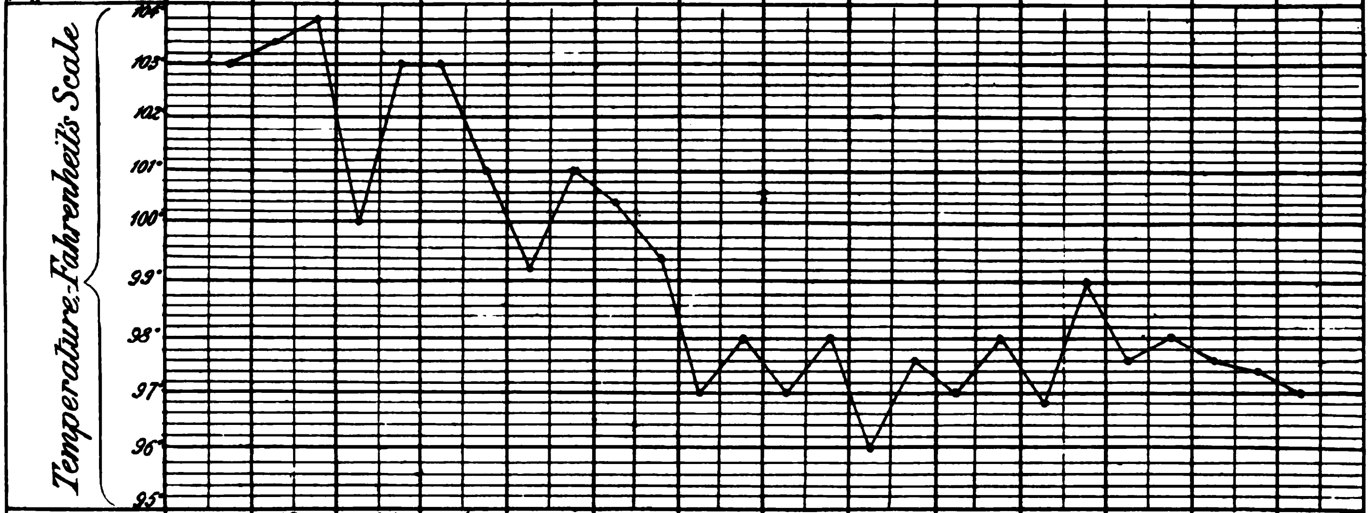
[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, January 27, 1893.

Chart No.1

CLINICAL CHART OF TEMPERATURE

Name, Joseph Doran, Age. 2, Weeks, *Result, Recovery*

Date	NOV 1892. 11	12	13	14	15	16	17	18	19	20	21.	22	23	24
Day of Disease	3	4	5	6	7	8	9	10	11	12	13	14	15	16



Pulse	M		130	140	150	125	120	120	125	130	110	112	120	120	120
	E	160	130	160	160	120	120	100	130	140	130	120	120	124	
Resp	M		48	60	50	48	40	40	36	40	32	32	36	36	34
	E	70	48	60	56	36	48	48	40	44	36	34	40	38	
Motions		0	1	1	3	1	1	0	2	1	1	2	2	2	

no symptoms of vomiting, purging, soreness of mouth or throat, his mother thought the illness would not signify, being probably only a slight cold. On the morning of the 11th, however, he seemed worse, and in the afternoon was seized with an attack of convulsions. A warm bath was given, and the doctor was at once sent for. The mother gave the infant a dose of castor oil, and on taking him out of the bath wrapped him in blankets and kept him near the fire.

When the doctor arrived he found the baby looking exactly like a big boiled lobster, and covered from head to foot with a tiny red rash, temperature high, pulse and respirations rapid, skin dry and feverish, and tongue dirty. With these apparent symptoms before him, the doctor seems to have had no hesitation in pronouncing the case to be one of scarlatina, and ordered the infant to be taken at once to hospital. Joseph was straightway carried off to the Meath Hospital, wrapped up in blankets, his mother not even waiting to dress him. On arriving at the hospital he was seen by the House Surgeon, who also thought the case was one of scarlatina, and ordered both mother and child to be admitted to the observation ward.

Nov. 11th.—On examination the patient was found to be very feverish, the skin dry and red, a diffuse rash all over the body. The right shoulder almost touches his ear; all around the shoulder, and extending down the side and chest, is a large tense swelling, evidently very painful, the infant screaming when it is touched. He appears to have little or no power in the right hand and arm, and the fingers do not close around anything placed in the hand as babies' fingers are wont to do. His mother noticed this swelling only the day before, but she cannot account for it in any way. She thinks it must be the result of a fall or a bruise, and yet she feels certain that no accident ever happened to the baby.

On the morning of the 12th the patient was examined by Dr. Moore, who pronounced him to be suffering from an abscess in the right axilla. There are no symptoms of scarlet fever except the redness, a rash, and feverishness. The redness and rash were undoubtedly partly due to the feverishness, but also to the hot bath and the wrapping in blankets. The feverishness was a secondary fever, arising from the presence of the abscess. The infant's age is against the diagnosis of scarlatina, he has had neither vomiting nor purging, nor sore throat, nor sore mouth, nor swollen glands; he has not been exposed to infection so far as can be made out. It was ordered that the swelling should be carefully smeared with vaseline and poulticed with linseed meal thrice daily, the infant to be kept warm and carefully watched.

November 15th.—The abscess has been poulticed since the 12th instant, and this morning it broke, a considerable quantity of unhealthy pus coming away. The rash has quite disappeared. Dr. Moore, on examining the patient to-day, ordered the linseed meal poultices to be stopped, and boric acid dressing to be used instead once a day. There was an unpleasant odour from the discharge.

17th.—Swelling has almost all gone; there is still some discharge; infant looks much better.

20th.—The boric acid dressing has been stopped to-day, as all discharge has ceased; dry dressing to be used instead.

25th.—Patient left to-day quite cured, and looking healthy and strong. The wound is completely healed.

Remarks.—Even before I saw the patient, I questioned the correctness of the diagnosis of scarlatina, remembering how singularly immune against this infectious fever most nurslings are. Many years ago I was asked by Dr. Richard Purefoy to take charge of a lady, one of his patients, who had unfortunately developed an attack of scarlatina while nursing her baby.

The question at once arose whether mother and child were to be separated. On ascertaining that the mother had an abundant supply of milk, I unhesitatingly advised that she should continue to nurse her infant, on the ground that she would be relieved from all trouble with her breasts, and from the excitement attending separation, while the infant would run little or no risk. Throughout that lady's illness she continued to nurse, and the child took no harm.

Several years afterwards I pursued a similar course under analogous circumstances, and with equally good results. So slight is the susceptibility of infants under six months to scarlatina, that a diagnosis of the disease in so young a child should be received with caution, if not with scepticism.

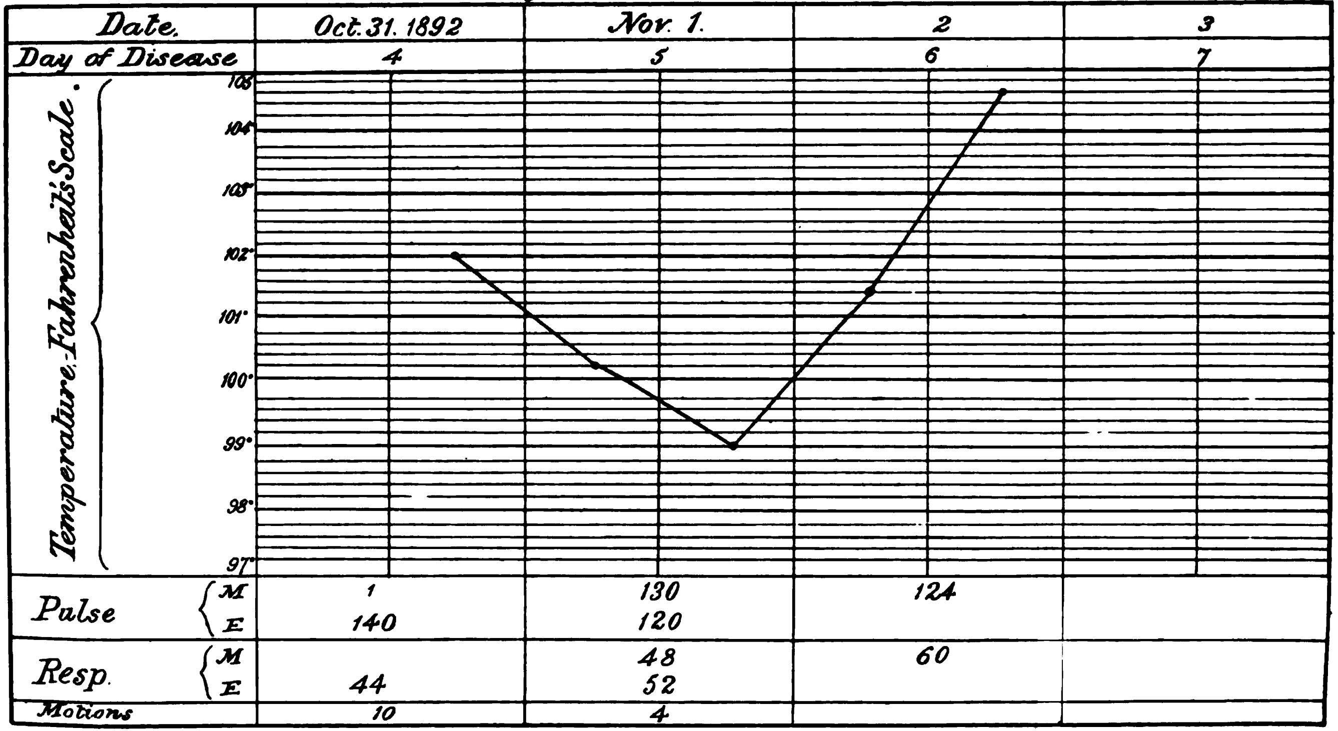
In the case now recorded, the infant had no difficulty in swallowing, and there was no evidence that the throat was sore. The child sucked as well as ever, and the cervical glands were not enlarged. Although the pulse was 160 at the time of admission, the normal rate of the pulse in an infant aged two weeks—120 to 140—is to be borne in mind—in a word, the pulse was not quick enough for scarlatina. The rash and injection of the skin could be accounted for by a fever in so young a child, as well as by the administration of a warm bath. To crown all, the discovery of an axillary abscess sufficiently explained the pyrexia and the other constitutional symptoms in the case.

Case II.—*Septic Peritonitis from Rupture of the Right Ovary.*—My Clinical Clerk, Mr. George Peirce Moore, furnished me with the follow-

Chart No. 2

CLINICAL CHART OF TEMPERATURE.

Name, Mrs. M. M. Age, 33, Disease, Peritonitis, Result, Death.



ing notes of this case:—Mrs. M., aged thirty-three, was admitted into the Meath Hospital on Monday, October 31st, 1892. On admission the patient gave the following account of her illness:—She had been in her usual good health up to the previous Friday, when early in the day she was seized with a violent pain in the "stomach;" shortly afterwards diarrhœa and vomiting set in, the former being very severe. Finding herself worse on Sunday, she came to the hospital on Monday afternoon. She then was in pain (not very severe), had much dyspnœa, a pulse of 140, her temperature was 102° F., and diarrhœa was severe, 8 motions occurring in the course of the evening. The motions were not characteristic of enterica.

On Tuesday the abdominal pain was more intense; there was much tympanites; pulse, 130; respirations=48; temperature had come down to 100·2° F. The patient now commenced to menstruate. She was put on opium (1 gr. every third hour), an ice poultice was applied to the abdomen, and mustard cloths were wrapped round the legs; brandy, 4 oz. When seen the same evening she appeared in much less pain, spoke hopefully of herself, and said she was much better. She took some milk and brandy during the evening and night.

On Wednesday the patient looked worse; her face was cyanosed; respirations, 60 per minute; pulse, 124; she had become unconscious, and there was suppression of urine; her pupils were widely dilated; the abdomen was tense and full. The patient gradually sank (temperature at 7 p.m. = 104·8°), dying at 8 30 p.m.—*i.e.*, on the sixth day of her illness.

On *post-mortem* examination the body was found to be well nourished. On opening the abdomen a large amount of greenish, purulent, and lymphy exudation escaped; there was much matting together of the intestines to each other, and to the abdominal parietes, and all the pathological appearances of general peritonitis were present. No intestinal lesions proper could be found; the mucous coat of the ileum looked healthy, and there was not the slightest enlargement of either the agminate or the solitary glands. The lungs, heart, liver, and kidneys all seemed healthy. Eventually the ovaries were found to be much congested; the right ovary being three times its normal size. On gently lifting it a linear rupture was found on its posterior surface, with effusion of clotted blood, pus, and debris around it; there was no pyosalpinx. Death was thus proved to be due to peritonitis, caused by inflammation and rupture of an ovary, occurring probably at the menstrual period.

Remarks.—When I first saw Mrs. M. it occurred to me that perhaps she had really been suffering from latent enteric fever, and that perforation had unexpectedly taken place, giving rise to general peritonitis. From this grave malady it was only too evident she had been suffering from the Friday before her admission—that is, for four days inclusive. As this was so, any operative measures seemed to be out of the question, more particularly as her strength had ebbed fast. The question of the ætiology of the peritonitis was set at rest by the *post-mortem* examination. Not a trace of disease was forthcoming in the ileum, the ileo-cæcal valve, the vermiform appendix, or the cæcum and colon. On the other hand, the inflamed and ruptured state of the right ovary, which had evidently been the seat of a purulent oöphoritis, afforded a ready solution of the question: "Whence sprang the fatal peritonitis?"

CASE III.—*Retro-pharyngeal Abscess.* (Notes by Mr. George P. Moore, Clinical Clerk, and Miss Frances E. Robb, Probationer).—John K., a labourer in a large brewery, aged forty-five, married; admitted on Sunday afternoon, Nov. 13th, 1892, into the observation ward of the Meath Hospital. The patient, a stout, strong, powerfully-built man of intemperate habits, was supposed, before admission to hospital, to be suffering from tonsillitis. Ten years ago the patient had been for three weeks on the surgical landing with violent epistaxis, under Sir Philip Smyly's care. He was then so weak from hæmorrhage—for when his nostrils were plugged the blood came from the ears—that Sir Philip described him to a friend as "the only dead man he had ever seen come to life again."

There was no return of the epistaxis after leaving hospital, and the patient says that he enjoyed perfect health ever since until three weeks ago, when from working in underground damp vaults he was promoted to the hot, draughty copper-room at the Brewery. That night he felt a violent pain between his shoulders, and suddenly lost the power of his arms and hands. He began to cough, and after going to bed a fit of dry retching came on which lasted on and off for 24 hours; he felt his neck begin to swell, breathing and swallowing became difficult, and something like a hard lump in his stomach gave him much pain. A doctor was sent for next morning, who ordered hot linseed-meal poultices to be applied to the throat three times a day, besides doses and gargles, which seemed to do him little or no good, for the dysphagia and dyspnœa increased from day to day, and the patient became excessively weak from lack of nourishment, and was unable to be out of bed. For two days before coming in he was not able to swallow even fluids, the effort always bringing on a fit of coughing which was most exhausting.

Nov. 13th.—The patient was admitted at 4 o'clock this afternoon in a state almost of collapse; so weak that he can hardly stand. Breathing exceedingly difficult, quick and very noisy, like the sound of a water-wheel. Speech indistinct for some time, and afterwards at intervals the voice has a peculiar nasal tone, caused, no doubt, by the posterior wall of the pharynx being pushed forwards against the posterior nares. For it is evident that there is an internal swelling besides the very visible external one which can be seen fluctuating. Any attempt at swallowing brings on coughing, and whatever has been taken into the mouth is only expelled again.

The patient feels very cold, and the extremities are icy; pulse very weak, at times it can hardly be felt at all. When hot jars had been applied to the feet, extra blankets put on the bed, a bronchitis kettle started, and the patient had had hot water to hold in his mouth, and an inhalation of carbolic acid and glycerine, he felt rather better, and fell into a short uneasy sleep. He afterwards managed to get down a few drops of beef-juice and a few drops of wine. The ensuing night was very disturbed, and the dread of being choked seemed to be ever present with the patient, who is exceedingly nervous about himself.

November 14th.—On visiting the patient for the first time this morning I was much struck by his appearance. In the first place, there was extreme dyspnœa; the breathing being laboured, noisy, and stertorous; the man's aspect was wild and anxious; his face was congested and livid; beads of perspiration constantly broke out on his forehead; the lower part of the face and neck was thrust forward—the sterno-mastoids standing out like great cords; under the jaws the neck was swollen at both sides. The man articulated plainly, although the voice was hoarse. When I looked into the mouth I saw a state of things which was perfectly novel to me. The tonsils were not very large, but they and the pillars of the fauces, the velum palati, the uvula, and even the tongue, were all pushed forward by the projecting posterior pharyngeal wall. So much did it encroach upon the back parts of the mouth, that it seemed to be continuous with the velum palati, obliterating the passage to the posterior nares. The patient could barely swallow, and seemed in momentary danger of suffocation. I made up my mind that we had to deal neither with tonsillitis nor with œdema of the glottis, as had been suggested, but with a vast retro-pharyngeal abscess. I also felt that the condition of the patient was so critical that not a moment was to be lost, and that in prompt remedial measures his only chance of safety lay. Accordingly, I at once sent for Mr. Ormsby, who happened to be the surgeon on duty, and who was fortunately in the hospital at the time. He was immediately in attendance, and on hearing the facts of the case, and having examined the man's mouth, he made the patient sit up in bed, and with a guarded knife incised the posterior wall of the pharynx in a vertical direction on each side of the uvula (which was actually in apposition with it) to the extent of half an inch. A gush of blood and pus took place into the mouth, followed by instant relief to the more urgent symptoms. I shall never forget the scene. Quantities of thick sanguineous pus poured from the man's mouth and nostrils; he began to draw deep breaths, which were ever and anon interrupted by fits of coughing, causing the pus and blood to splutter in all directions. Unable to utter more than the one word "Saved," the man grasped Mr. Ormsby's hand with a look of intense gratitude. Water was brought to him to rinse out his mouth, when, to our great disgust and even fear for the consequences, he swallowed it in deep gulps. Remonstrated with for doing so, he exclaimed, "O! sir, if you only knew what it is to be able to drink!" After the operation free venous hæmorrhage occurred, but it was checked by the hazeline spray and local douching with turpentine on pledgets of wool. The man was able to take "slops" freely during the day, and he slept well the following night. He continued steadily to improve. Beginning with "slops," he was soon able to eat bread soaked in water or milk or broth, egg-puddings, and in a few days meat. Pus continued to be coughed up for several days, but in daily diminishing quantity.

November 21st.—On the afternoon of this day the patient had a slight rigor, after which his temperature rose to 103·6°. Dyspnœa and dysphagia came on again, but less severely than at first. The man passed into a state almost of terror, and thought he was going to die. Two 5-grain doses of quinine were given through the ensuing night, and Mr. Alfred Power, the House Surgeon, at midnight made incisions in the throat where Surgeon Ormsby had made them before, and instant relief followed. The application of poultices was commenced again, and continued for two days; temperature fell next morning to 98° F. The flow of pus on this occasion was not nearly so copious as before, and stopped much sooner. The patient again improved, and in a few days could eat meat, though he remained in bed and often complained of sharp pain in his lungs, back, and side.

Nov. 28th.—He was moved up to the surgical landing to be under the care of Mr. Ormsby, being a surgical case. He complains of pain in the back, and says it feels weak, but otherwise he is wonderfully well and very bright.

Dec. 3rd.—Slight rigor in the afternoon; temperature in the evening, 103·4°. Complains of his throat, and has much difficulty in swallowing and breathing. Throat poulticed during the night, and hot drinks given freely.

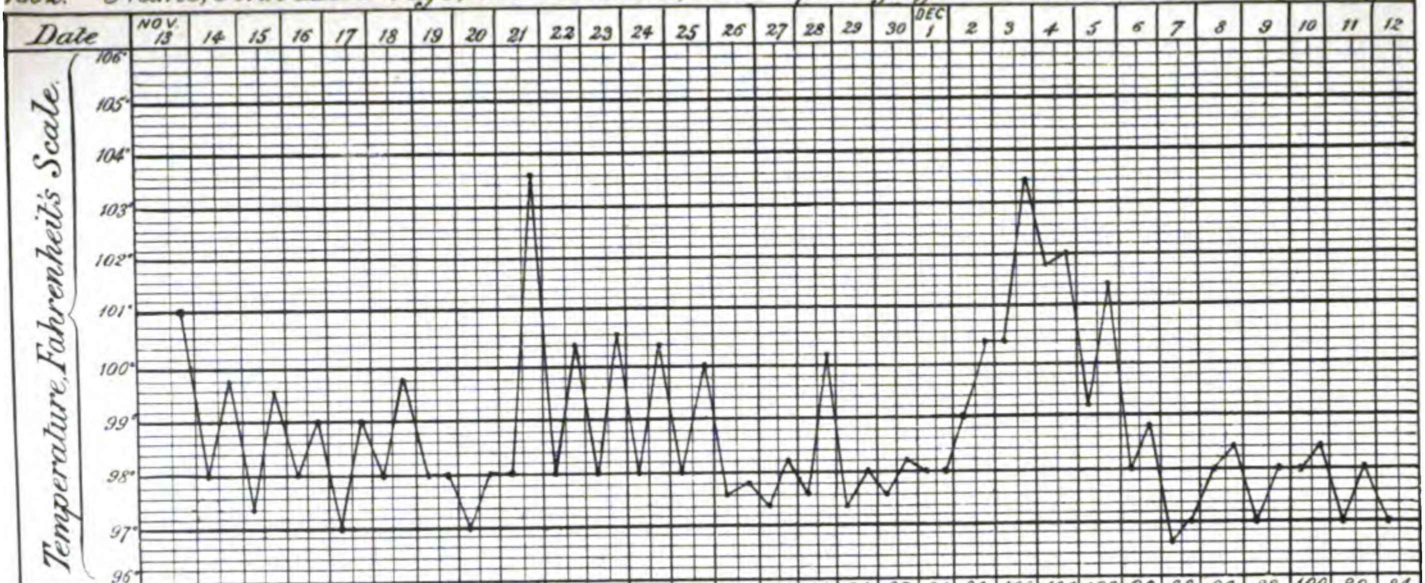
Dec. 4th.—Mr. Ormsby re-opened incisions made before with the same results as on the two former occasions; less pus than before. Poulticing continued for two days, then patient was able to eat meat again.

Dec. 13th.—Up to-day for the first time; pain in the back still continues, but he seems better than he has been since coming to hospital.

Dec. 18th.—The patient left hospital on this day, apparently quite well.

Chart No. 3
CLINICAL CHART OF TEMPERATURE

1892. Name, John K___ Age, 45. Disease, Retro-pharyngeal Abscess. Result, Recovery

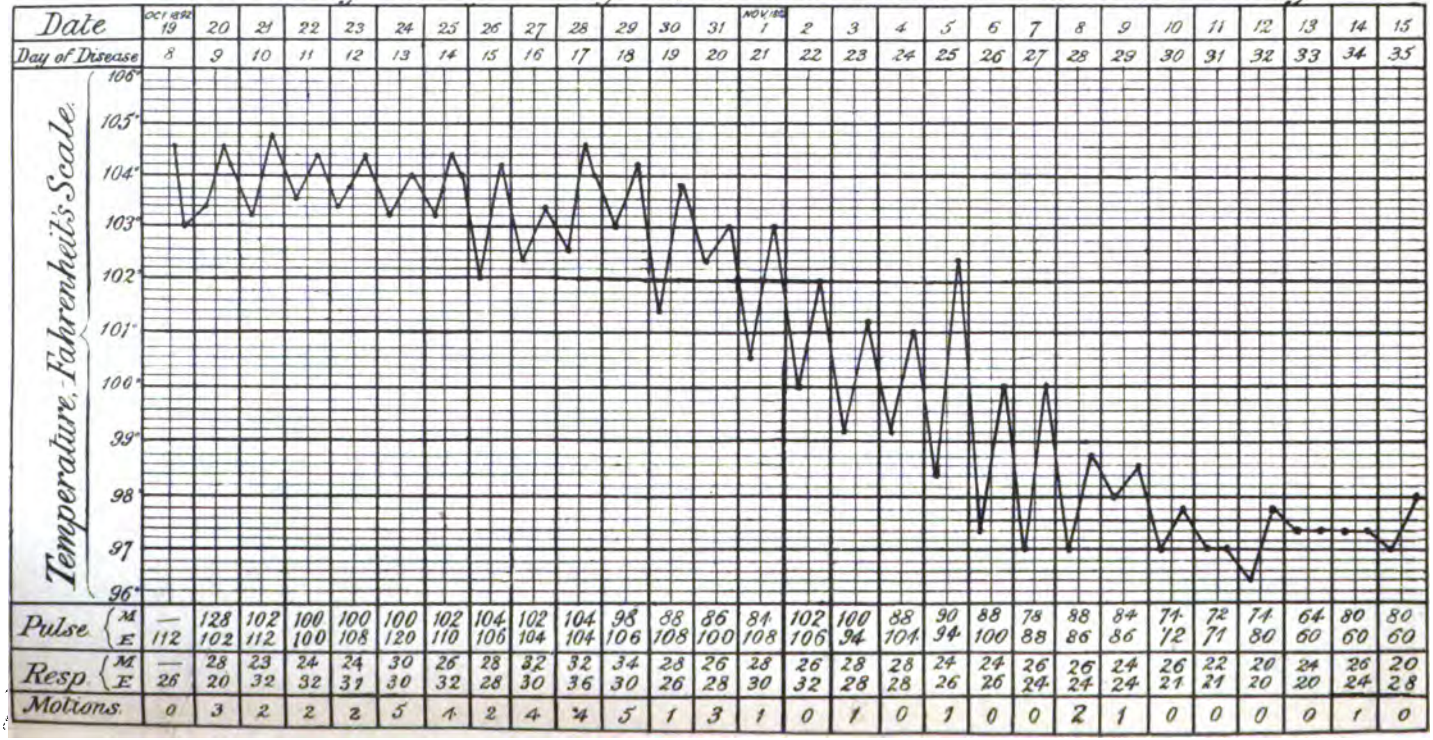


Date		Nov. 13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Pulse	M	—	102	96	94	88	88	88	90	100	100	120	104	100	100	96
	E	114	96	98	96	100	90	90	100	140	96	98	96	98	96	96
Resp	M	—	48	32	28	28	32	28	28	28	26	32	32	32	30	30
	E	50	32	34	36	36	36	32	28	30	36	31	32	32	28	36
Motions		0	2	1	2	1	1	0	1	1	2	1	0	1	1	1

Date		28	29	30	Dec. 1	2	3	4	5	6	7	8	9	10	11	12
Pulse	M	98	91	92	94	88	108	106	102	90	88	86	88	100	80	84
	E	100	98	98	96	110	140	120	106	88	84	88	88	86	84	—
Resp	M	30	32	28	28	28	32	32	28	26	26	24	24	26	24	24
	E	38	32	30	26	30	40	36	28	26	24	24	24	22	20	—
Motions		1	1	0	1	0	0	1	1	1	1	1	1	1	1	—

Chart, No. 4
CLINICAL CHART OF TEMPERATURE

Name, Mary Ann B______ Age, 19, Disease, Enteric Fever, Result, Recovery



Date	OCT 1892 19	20	21	22	23	24	25	26	27	28	29	30	31	NOV 1892 1
Day of Disease	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Pulse M	—	128	102	100	100	100	102	104	102	104	98	88	86	84
Pulse E	112	102	112	100	108	120	110	106	104	104	106	108	100	108
Resp. M	—	28	23	24	24	30	26	28	32	32	34	28	26	28
Resp. E	26	20	32	32	31	30	32	28	30	36	30	26	28	30
Motions	0	3	2	2	2	5	4	2	4	4	5	1	3	1

Date	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Day of Disease	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Pulse M	102	100	88	90	88	78	88	84	74	72	74	64	80	80
Pulse E	106	94	104	94	100	88	86	86	72	71	80	60	60	60
Resp. M	26	28	28	24	24	26	26	24	26	22	20	24	26	20
Resp. E	32	28	28	26	26	24	24	24	21	21	20	20	24	28
Motions	0	1	0	1	0	0	2	1	0	0	0	0	1	0

Remarks.—The ætiology of the retro-pharyngeal abscess in this instance is not very clear. There was no evidence of spinal caries, and the complete recovery of the patient is against the supposition of any such exciting cause for the attack. The man was admittedly of intemperate habits, and the painful nature of his illness, even from the outset, suggests that the case was really one of erysipelas of the pharynx, followed by diffuse cellulitis and suppuration. The physiognomy of retro-pharyngeal inflammation was well shown in this case. The torturing dyspnœa, complete dysphagia, tilting forwards of the larynx and trachea as well as of the lower half of the face, and the swollen state of the submaxillary regions, and indeed of the neck itself down to the clavicles, made up a diagnostic picture which I can never forget. The signal and instantaneous relief afforded by operation is also indelibly fixed in my memory, and the happy termination of the case is a matter for congratulation.

I should not forget to mention that œdema of the glottis had been suspected before I saw the patient, but the absence of aphonia and the comparatively perfect articulation led me to pronounce positively against such a diagnosis.

Case IV.—*Scarlatina supervening upon Enteric Fever.*—Mary Ann B., aged nineteen, a domestic servant, unmarried, was admitted to the epidemic wards of the Meath Hospital, October 19, 1892, on the ninth day of a normal attack of typhoid fever. The accompanying Temperature Chart (No. 4) admirably shows the course of the fever, which calls for no special comment. She became permanently apyrexial on November 9, the twenty-ninth day of her illness. On Tuesday, November 29th, she went upon two occasions into the ward kitchen. She there met a patient convalescent from scarlatina, but still desquamating slightly, and remained in the room with the same for some 15 minutes. The day following she sickened, feeling unwell for the first time at 12 o'clock noon. Her symptoms were—headache, pain in the pit of the stomach, malaise, and sore throat. Next morning (the third day, inclusive, after exposure to infection), the rash of scarlatina had already overrun the greater part of the body. The attack proved a mild one, except that there was a very marked secondary infection of the cervical glands, which caused an equally pronounced secondary fever. This is wll shown in Temperature Chart No. 5. It is interesting to note that the glandular swellings, which were most prominent on the left side of the neck where an attack of diffuse cellulitis was apparently impending, yielded readily and at once to the diligent application of ice poultices.

Remarks.—My object in bringing forward this case is to draw attention to—first, the increased predisposition to one infectious disease which the presence of another causes; secondly, the shortness of the periods of both incubation and invasion in scarlatina under such circumstances. It would seem as if the mucous membranes and glands had lost their power of resisting the invasion of pathogenic micro-organisms in the later stages of enteric fever. One may regard the infecting process under such conditions to be one of inoculation rather than of ordinary infection.

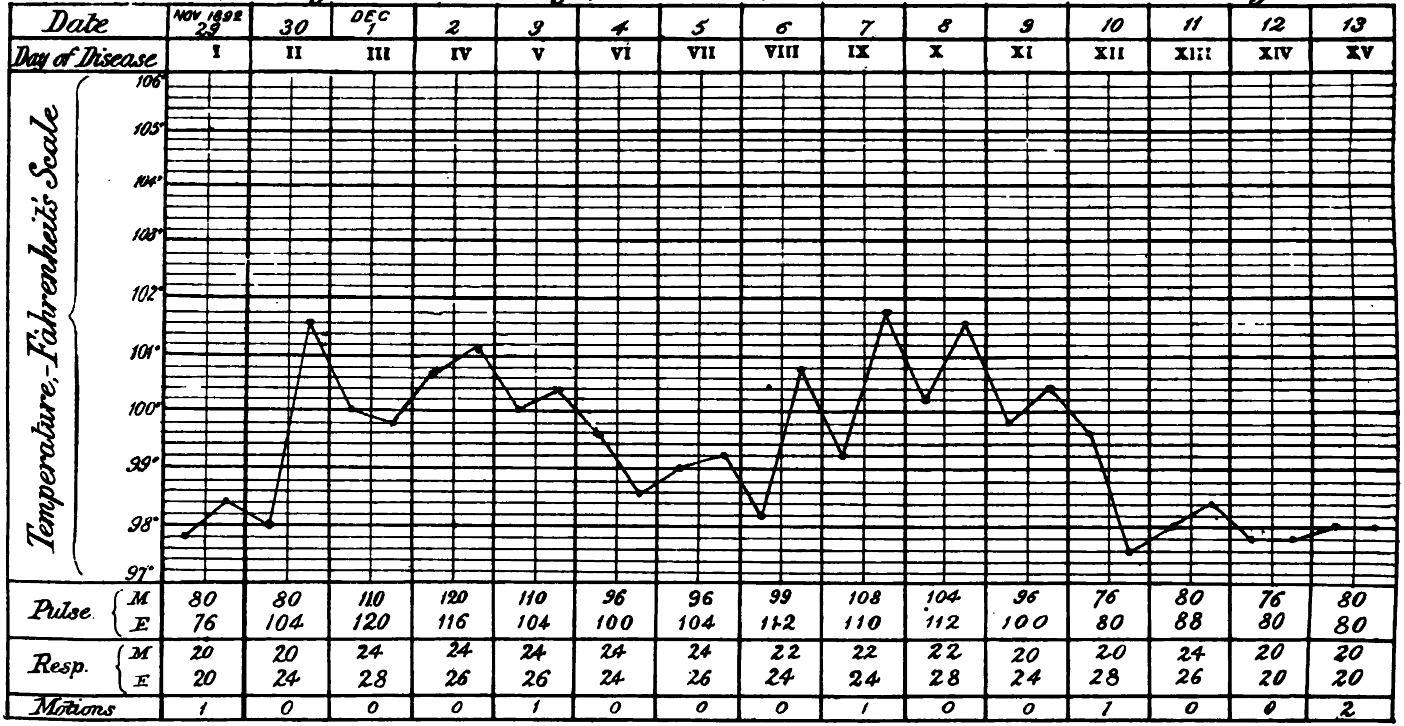
CASE V.—*Pulmonary Emphysema—Aortic Valve Disease—Aortic Aneurysm bursting into the Pericardium.* (From notes by Mr. George P. Moore, Clinical Clerk, and Mr. Charles E. Hodgson, Case-taker.)—The last case of the present series is that of a shoemaker, David R. by name, a widower, aged sixty-two years, who was admitted into ward 12 of the Meath Hospital under my care on October 14th, 1892. The patient was a native of the Co. Kildare. He had worked constantly at his trade for forty-four years. His family history calls for no remark. He admitted that he had been of very intemperate habits up to some four years ago, when he was *obliged* to give up drinking—at all events to excess—owing to impaired health. Very little liquor would then intoxicate him, and also cause nausea. There was no history of rheumatism or of syphilis, and the man assured us that he had enjoyed good health up to some five winters ago, when he began to suffer from difficulty in breathing. This symptom subsided or disappeared in summer to return in each succeeding winter season. About six months ago he became subject to attacks of pain of a gnawing character across the front of the chest. Three weeks before admission he observed "a lump" over the upper part of the right side of his chest near the breast-bone. This lump produced a throbbing feeling when he placed his hand over it. Shortly afterwards he consulted Dr. John A. Johns, who advised him to enter hospital.

On admission the patient's chief complaint was of difficulty of breathing. Expiration was much prolonged. The thorax appeared full, almost barrel-shaped, with rigid sides. The percussion note was hyper-resonant over the infra-mammary regions, so that a diagnosis of emphysema of the lungs was made. But this was not all, for on proceeding to examine into the state of the circulation a further diagnosis of aortic regurgitation became easy. Thus, a well-marked diastolic murmur was heard down the sternum, taking the place of the aortic second sound; there was also a less distinct systolic murmur, which was carried into the carotids and subclavians. There was a collapsing pulse at the wrists, and in the carotids the presence of visible pulsation could be recognised, although it was not pronounced. The usual depression in the sternum incidental to his occupation of shoemaker was very noticeable. In the second right

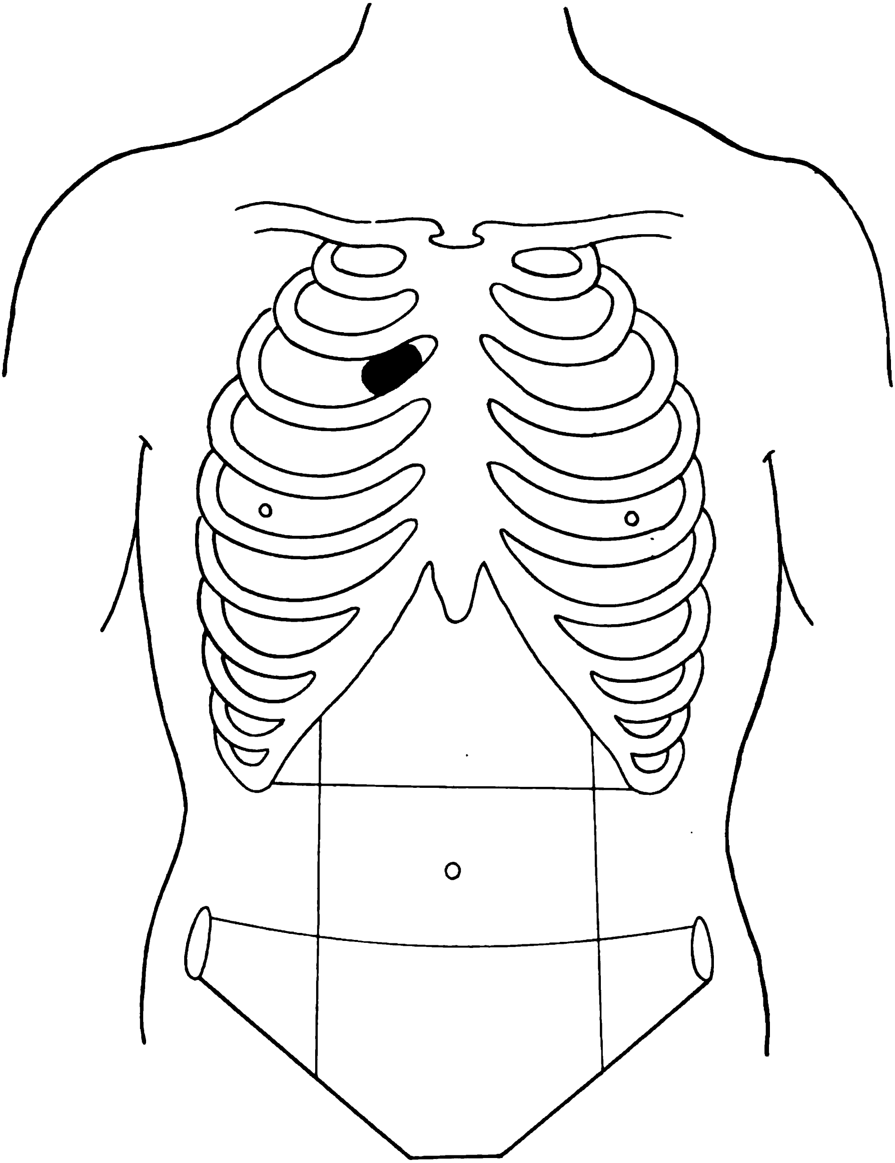
Chart, No. 5.

CLINICAL CHART OF TEMPERATURE.

Name, Mary A. B Age, 19. Disease, Scarlet Fever, Result, Recovery.



DAVID R



interspace a fulness was observed, corresponding to an area of dulness on percussion which was about 2 inches in diameter. This is represented in the Plate. A distinct throbbing was both seen and felt in the same place, so that a diagnosis of aneurysm of the ascending portion of the thoracic aorta was in the third place arrived at. Soon after admission the aneurysmal pain became very intense. It was relieved by occasional leeching and the administration of opiates at night. After two weeks stay in hospital an attack of cystitis occurred. It was attended by abundant deposits of pus in the urine, but soon yielded to treatment—a mixture of benzoate of sodium, nux vomica, and infusion of buchu quickly clearing the urine. Albuminuria, however, persisted, being due rather to cardiac failure than to nephritis. On November 20th, Esbach's albuminimeter gave 1·75 grammes of albumen per litre, the amount rising to 2 grammes per litre on November 26th.

The patient continued fairly well until a week before Christmas, when sleeplessness and pain began to tell on his strength. Eczema appeared on the backs of the hands and on the forearms. The bitter cold of Christmas killed him, as on December 28th after taking a cupful of beef-tea, about 12 noon he lay down as if to sleep, and was found in this position dead about half an hour afterwards.

The *post-mortem* examination was made on the following day. The right pleura was in places much thickened and adherent. The upper lobe of the right lung was largely collapsed and airless. Extreme emphysema existed along the inferior margins of both lungs.

The pericardium was full of blood, which had poured into this sac from an irregular rent in the wall of a sacculated aneurysm of the ascending aorta. Anterior to this a large false aneurysm was found. The entire length of the thoracic aorta was in a state of advanced atheromatous degeneration, with calcareous plates here and there. Bead-like atheromatous projections also existed on and near the aortic valves, which were both obstructed and manifestly incompetent. Notwithstanding this, the heart was neither hypertrophied nor dilated.

Remarks.—I have already, during the present Session, laid before the Pathological Section of the Academy a case of fatal rupture of a thoracic aneurysm into the left lung and pleura. In the present instance, rupture took place into the pericardium and the man died—not, as in the former case, of hæmorrhage, but from stoppage of the heart through the pressure of the effused blood.

of 1891, from which we cull the following information as likely to be of interest to our readers.

The population of Ireland in 1891, including the navy and military serving in this country, was 4,704,750 (2,318,953 males and 2,385,797 females). In 1881 it had been 5,174,836 (2,533,277 males and 2,641,559 females). There was, therefore, in the ten years a decrease of 470,086 persons, or 9·08 per cent. The number of the navy and military serving in Ireland in 1881 was 26,055, and in 1891 it was 25,725.

There is a marked diminution, amounting to 15·7 per cent., in the number of children under 15 years of age in 1891 compared with 1881. There is also a decrease in the number of persons in the age periods from 20 to 30 and from 30 to 40, amounting to 5·5 and 8·4 per cent. respectively.

As regards *birth-places*, it is interesting to note that the numbers of both British and foreign residents in Ireland show a marked increase in the ten years. In 1881 the number of persons born in England, enumerated in Ireland, amounted to 69,382; in 1891 the number was 74,523, being an increase of 5,141, or 7·4 per cent. The number of Scotch in Ireland in 1881 was 22,328; in 1891, 27,323, or an increase of no less than 22·4 per cent. The number of persons born outside of the United Kingdom who were in Ireland on the Census night in 1881 was 19,792, and in 1891 21,521, being an increase of 9·2 per cent. The number of foreigners in Ireland in 1891 was 12,900—an increase of 1,690 compared with 1881 (11,210). The principal feature in connection with this point is the large immigration of Russian Jews during the latter part of the decade.

From the foregoing figures it is evident that, while the native-born Irish are rapidly diminishing in numbers, there is a steady increase in immigration from the sister island of Great Britain, and also from abroad. This is a matter which should engage the attention of both politicians and political economists, particularly at the present juncture in the history of the United Kingdom.

A cognate subject is *language*. The number of persons returned as speaking Irish only in 1891 was 38,197, or 0·81 per cent. In 1881 the number so returned was 64,067, or 1·24 per cent. The persons who could speak "English and Irish" in 1891 amounted to 642,053, or 13·6 per cent. In 1881 they were as many as 885,765, or 17·1 per cent. From these figures it appears that Irish, or Erse, is rapidly becoming a "dead language"—not even one in every hundred of the population now uses his "native tongue" exclusively, while 86 out of every 100 do not use it at all.

A pleasant feature in the Census statistics is the spread of education on the one hand, and the diminution of pauperism on the other. In 1891 the number of persons in Ireland five years old and upwards who were wholly illiterate was 18·4 per cent. of the population—no doubt a large proportion. In 1881, however, the corresponding percentage was 25·2. Therefore, there was a satisfactory falling off in illiteracy to the extent of 6·8 per cent. in the decade. In 1891 there were 9,177 establishments for primary instruction, attended by 685,074 pupils. The corresponding numbers in 1881 had been 9,151 establishments, and 675,036 pupils. The increase in the number of pupils in the decade was 10,038, or 1·5 per cent. As regards "superior schools," the results were much more satisfactory. While the number of such schools diminished from 504 in 1881 to 490 in 1891, the students attending them increased from 24,693 in 1881 to 27,769 in 1891—that is, by 12·5 per cent. in the ten years.

Pari passu with the progress of education, we observe signs of amelioration in the condition of the people as to housing and prosperity. In the first place, the number of paupers in the workhouses of Ireland on Census Night in 1891 was 42,348, being 13,482, or 24 per cent., under the number in 1881. It will be remembered that the decrease of population in the decade was 9 per cent. The number of persons in receipt of out-door relief in Ireland at the date of the Census of 1891 was 62,988. The corresponding number in 1881 was 64,233. These figures are not so satisfactory as the others. The rateable valuation of the country rose from £13,812,363 4s. 9d. in 1881 to £14,034,681 1s. 9d. in 1891—a substantial advance of 1·6 per cent. Again, while the total number of inhabited houses decreased by 4·8 per cent. between 1881 and 1891, houses of the first class increased by 6·0 per cent., and those of the second class by 10·5 per cent. On the other hand, houses of the third class decreased by 18·7 per cent., and "fourth class houses" (that is, mud cabins) by not less than 49·3 per cent.

The material wealth of the people in "live stock" has advanced by leaps and bounds. In 1891 the number of live stock was as follows:—Horses and mules, 621,479; asses, 216,268; cattle, 4,448,516; sheep, 4,722,613; pigs, 1,367,712; goats, 336,337, and poultry, 15,276,128. In 1881 the corresponding numbers were:

Horses and mules, 574,746; asses, 187,143; cattle, 3,956,595; sheep, 3,256,185; pigs, 1,095,830; goats, 266,078, and poultry, 13,972,426.

Less satisfactory are the statistics as to the division of land, which show that in the decade the total extent under crops (including meadow and clover) fell away from 5,195,377 acres to 4,818,381 acres. Woods and plantation similarly fell away from 328,703 to 311,554 acres. On the other hand. the extent of land under grass rose from 10,075,425 acres in 1881 to 10,298,654 acres in 1891: while turf-bog, marsh, barren mountain, roads, fences, &c., represented 4,769,677 acres in 1891, against 4,595,097 in 1881.

With respect to the occupations of the people, we learn that there was an appreciable increase in the percentages of the "Professional Class" (0·71), the "Commercial Class" (0·37), the "Agricultural Class" (0·64), and the "Industrial Class" (0·59), whereas the percentage of the "Domestic Class" (when revised) decreased to the extent of 0·12 during the decade, and that of the "Indefinite" or "Non-productive Class" showed the substantial decrease of 2·36 in the ten years.

The following "Vital Statistics" are interesting. From April 1, 1881, to March 31, 1891, 1,147,321 births were registered, against 1,391,983 in the previous ten years. The registered marriages were 212,256, compared with 245,968 in 1871-1881. The deaths were 879,412, compared with 969,076 in the previous period. During the decade, 1881-1891, not fewer than 768,105 persons emigrated from Ireland—393,744 males and 374,361 females.

The "sick" and "infirm" of all kinds on Census Night, 1891, numbered 66,664, or 1 in 71 of the whole population. Of these 35,722 were temporarily, and 30,942 were permanently, diseased. In 1881, the number of sick and infirm on Census Night was 71,328, or 1 in 73 of the whole population. Of these, 40,090 were temporarily, and 31,238 were permanently, diseased. The malign effect of the epidemic of influenza of 1890–1891 is evident in these figures.

The number of the totally blind in Ireland in 1891 was 5,341. In 1881 the number was 6,111. The deaf and dumb numbered, in 1891, 3,365; in 1881, 3,993. The number tabulated under the heading "Dumb not Deaf" was, in 1881, 1,143; in 1891, 1,099.

The total number of lunatics and idiots returned in 1881 was

18,413, and in 1891 it was 21,188. On Census Night, 1891, there were 14,945 lunatics (7,463 males and 7,482 females), compared with 9,774 (4,857 males and 4,917 females) in 1881. Of the 14,945 lunatics, 893 were at large, 11,265 were in asylums, and 2,787 were in workhouses. The corresponding figures in 1881 were: 943 at large, 7,547 in asylums, and 1,284 in workhouses. On Census Night, 1891, there were 6,243 idiots (3,501 males and 2,742 females), of whom 4,077 were at large, 996 were in asylums, and 1,170 were in workhouses. In 1881, there were 8,639 idiots (4,674 males and·3,965 females). Of these, 4,548 were at large, 1,896 in asylums, and 2,195 in workhouses. It is probable that the apparent large increase in the number of lunatics and corresponding decrease in the number of idiots is in part due to a difference of classification in the original returns.

In the foregoing paragraphs we have included the pith of this most valuable report. The details run to 70 large folio pages. In illustration of their report the Commissioners append four coloured maps and nine coloured diagrams. The first three maps show respectively, by various shades of colouring, the density of population, the state of education, and the quality of house-accommodation in the several counties of Ireland—thus presenting at a glance the position in respect to these points in which each county stands as compared with the others. The fourth map, now included for the first time in a Census Report, shows the average rateable valuation per head of the population for each Poor-Law Union in Ireland in 1891. A comparison between this map and the Land Census Tables, which are given at pages 170 to 319 of this volume—Part II. of the Census—will enable those interested in the subject to form a very fair estimate of the relative economic conditions of the various parts of the country. The diagrams exhibit graphically, by Counties and Provinces, the actual number of acres and the proportion of the acreage under pasture, tillage, &c.; the proportion per cent. of the inhabited houses in each class; the proportion of each religious profession; the proportion of the illiterate five years old and upwards in each religious body; the proportion of the population five years old and upwards who could read and write, read only, and neither read nor write; the proportion per cent. of persons between 5 and 16 years of age attending school and not attending school during the week ending the 30th of May, 1891; the percentage of pupils attending school during certain specified periods of days in the year ended the 31st of

March, 1891; the proportion per 10,000 of the population of lunatics and idiots, the sick at their own homes, the totally blind, and the deaf and dumb. Similar diagrams had been appended to the Report of the Census Commissioners for 1881, so that an accurate comparison is possible. A scale is attached to each section of the diagram, so that not only do the sections collectively present to the eye the relative proportions of the various elements in any given County or Province, but they enable the exact proportion in each to be measured by a glance at the scale.

The variety and magnitude of the work undertaken, and so ably accomplished, by Dr. Grimshaw and his coadjutors, epitomised in this review, may be perceived from the fact that statistics are given in the Report of the Commissioners for over 70,500 separate places or areas, exclusive of small islands. The publications of the Commissioners comprise over 4,700 pages of tables and letter-press treating of the most various topics, several of which are not included amongst the subjects for inquiry in the Census of the other portions of the United Kingdom. The extraction and tabulation of these items, both singly and in combination with others, while it has invested the Irish Census with peculiar interest, has complicated the statistical operations and rendered the work of compiling a Report upon the Census much more intricate. The Commissioners, therefore, justly point out that their labours cannot in consequence be fairly measured by the relative population to be dealt with.

The Commissioners have been enabled to bring their great work to a close at a date unprecedently early in the annals of Irish Census inquiries. The General Report of the Commissioners for 1841 is dated August 14, 1843. The Commission of 1851 issued their General Report on June 28, 1856. The General Report for 1861 bears date September 1, 1864, and that for 1871—when the enlarged scheme for County Publications was first adopted—was issued on September 29, 1875. In 1881, great exertions were made to bring the work to an early termination, and the General Report of the Census of that year is dated September 21, 1882. On the present occasion, the Commissioners succeeded in closing the inquiry at a still earlier date—the General Report now before us being dated June 23, 1892.

The financial results are equally satisfactory. The cost of the office work of the Census of 1891 will not exceed the sum of £14,400, showing a saving as compared with 1881 of £3,300.

The General Report concludes with a graceful acknowledgment on the part of the Commissioners of the services rendered in the taking of the Census by their own superintendents and office-staff, by the heads of various Public Departments, and by the District Inspectors of the Royal Irish Constabulary and the Inspectors of the Dublin Metropolitan Police, who acted most efficiently as Superintendents of Enumeration. Nor are the men of both forces, who performed the duties of enumerators as regards the general population, overlooked in the comprehensive votes of thanks by the Commissioners, which are also extended so as to include the Chief Resident Officers of Public Institutions who, under the provisions of the Census Act, furnished the returns relating to the inmates of their respective establishments.

In an "Addendum" to the General Report, two of the Commissioners, Drs. Grimshaw and Bellingham Brady, take the opportunity of expressing to His Excellency the Lord Lieutenant, "in the strongest terms," their "appreciation of the great ability, untiring energy and admirable tact" displayed by their colleague, Mr. Robert E. Matheson, in the performance of the special duties devolving on him as Secretary to the Commission.

We cordially endorse every word of praise which is thus accorded to Mr. Matheson, but we would ask how it comes that up to the present no public recognition of any kind whatever has been made of the inestimable services rendered to the State and to the people of Ireland by the Registrar-General. Acting as First Census Commissioner, Dr. Grimshaw has now brought to a successful termination a second decennial Census. His far-seeing wisdom, far-reaching philanthropy, and conspicuous ability have secured for him a world-wide reputation. Surely they have also entitled him to a generous acknowledgment on the part of the Commonwealth he has served so long and so well.

The Diagnosis of Diseases of the Heart and Thoracic Aorta. By A. ERNEST SANSOM, M.D., F.R.C.P. Lond.; Physician to the London Hospital; Examiner in Medical Anatomy and the Principles and Practice of Medicine in the Royal College of Physicians of London; Fellow of King's College, London. London: Charles Griffin & Company. 1892. 8vo. Pp. 567.

DR. SANSOM has long been qualifying, as it were, to write a work on Diseases of the Heart and Aorta, which shall be classical. Of such a work we cordially welcome the first instalment which lies before us. Its manner and its matter lead us to look forward with keen and pleasurable anticipation to the promised appearance of a second section on Treatment, for in the present volume the question of Diagnosis alone is discussed. This statement, however, needs some qualification, for even on the title-page the author is careful to include in the subject-matter of his book "the Pathology which serves for the recognition of morbid states of the organs of circulation." In his preface also he shows that "the art of Diagnosis cannot be taught without the inculcation of an adequate knowledge of Morbid Anatomy and Pathology." Another noticeable feature in the preface is the strong claim he makes for the recognition of the value in regard to the solution of the more intricate problems of cardiac pathology which the use of such instruments of precision as the Sphygmograph and Cardiograph undoubtedly possesses. To this value Dr. Sansom's own pages bear eloquent testimony, more than one hundred and fifty of them in Part III. of the book being devoted to the subject of the sphygmograph and cardiograph in diagnosis.

The volume opens with a brief "Schema," including the headings "Symptoms," "Causes," and "Physical Examination."

The work proper is divided into three parts. Part I., on "Rational Diagnosis," runs to 56 pages and embraces two sections—one on "Symptomatology," the other on "The Previous History of the Patient." In Part II. the great question of "Physical Diagnosis" is fully considered in sections on "Inspection," "Palpation," "Percussion," and "Auscultation." This portion of the work is very comprehensive, running to no less than 330 pages. We have already alluded to Part III. The work concludes with an index of subjects, chiefly prepared by the author's son, Dr. H. A. Sansom.

The volume is well illustrated by numerous drawings and woodcuts. Of these, many are reproduced (with due acknowledgment) from standard works on medicine, pathology, and physiology. In the third part, also, many cardiograms and sphygmograms are introduced. In his preface, Dr. Sansom refers in terms of self-congratulation to a series of outline-charts, with which the book is further illustrated. They are inscribed with the exact positions of the physical signs observed in the different cases detailed in the text. In our opinion these outline-charts are unnecessarily large and clumsy. They all fold over two or three times, and in consequence the bulk of the volume is considerably increased without any corresponding or compensatory advantage. Nor is the execution of the charts at all artistic—in fact, it is disappointingly rough and crude. Another objection is that the task of reference to a given page is interfered with by the number of these outline-charts, which spoil the look of the volume, while they interrupt the sequence of the paging.

Needless to say that, as regards style, paper, type, and printing, the work has been brought out in a manner which reflects credit upon the publishers.

All those who know Dr. Sansom will be prepared to meet evidences of thoroughness and precision on every page of his book, nor will they be disappointed. From the "Schema" to the Index the language is clear and terse, and the prominent impression left on the reader's mind is that he has met in the author a master of clinical observation and of pathological research.

The arrangement of the second part renders the consecutive study of any given morbid condition of the heart or aorta a matter of some difficulty. Thus, physical signs detected by inspection will be described under that heading, while those discovered by palpation, or percussion, or auscultation may not be mentioned for one hundred or more pages in advance. From this point of view, we may look upon the book rather as a treatise upon physical examination of the heart and aorta than than as a clinical manual. And yet it is certainly the latter also. Even before we approach the more immediate subject-matter of the work, we meet with excellent clinical descriptions of such diseases as exophthalmic goître ("neuro-cardiac disease"), rheumatism, and gout; and the detailed account of each cardiac lesion is distinctly clinical and also pathological.

Coming to details, we regret to find that Dr. Sansom dismisses the subject of "nutmeg-liver" in a few words at page 59. He does not delay even to explain how the pathological condition in question came by its name, or what is the "constant state of venous engorgement" which leads to this organic change in the liver. On the same page (59) he more happily disposes of the physical sign known as "arcus senilis." He "cannot help concluding that a very exaggerated importance has been attached to the diagnostic value of 'arcus senilis.'" He thinks "that, for the most part, this sign, which simply means fibrous change in the cornea, is of little or no diagnostic significance."

Chapter X., on "Cardiac and Neuro-cardiac Dyspnœa and Dropsy," contains an instructive account of the embarrassments of respiration which accompany cardiac disease. We notice the graphic term, "Dyspnœa of Effort," applied to the difficulty of breathing which arises from even slight exertion in cardiac cases. The explanation of "rhythmic dyspnœa" (Cheyne-Stokes' respiration) offered by Dr. Sansom is based on the theories advanced by Traube, Rosenbach, Filehne, and Byrom Bramwell. He considers that "the cause of rhythmic dyspnœa is primarily in the nerve-elements in the medulla oblongata and its neighbourhood; that there are disturbed correlations of the various portions of the nervous mechanism of respiration, on account of complex disturbances of the nerve-structures in this situation; that, once initiated, the rhythmic phenomena usually continue to recur during long periods, or until the death of the patient; and that there is a strong analogy between this affection and Graves' Disease or the Rapid Heart—in the one case the rhythmic respiratory, and in the other the rhythmic cardiac, nerve-mechanism being disturbed" (page 77).

In Chapter XIV. special methods of examination by "Inspection" are described, and the uses of the ophthalmoscope and the laryngoscope in the diagnosis of heart-disease are fully detailed. The author almost goes out of his way to indicate the ocular appearances in anæmia, malaria, albuminuria, syphilis, and septicæmia—all of which morbid states have a more or less direct bearing upon the presence of heart-disease. In insisting upon the importance of a laryngoscopic examination, he points out that, in cases of aneurysm of the thoracic aorta, the signs in connection with the larynx and trachea may be the following—(1), complete paralysis of the left recurrent laryngeal nerve, manifested, as a rule, by more or less complete aphonia; (2), incomplete recurrent paralysis—*i.e.*, of the abductor twigs only; (3), in rare cases paralysis of the left vagus nerve; (4), direct pressure on the trachea (page 115). He adds an instructive instance in which two physicians in London arrived at a probable, or presumptive, diagnosis of aortic aneurysm solely from discovering slight weakness of the left vocal cord in the case of a gentleman who presented very slight and obscure symptoms, and no visible signs, of aneurysm. Death from the rupture of a small aneurysm of the aorta took place six months after the laryngeal signs were first noticed.

While we are on the subject of the larynx we may mention that a very full and clear account of "tracheal tugging" in aneurysm is given at page 125 under the heading "palpation." This very important sign of aneurysm was first recorded by Surgeon-Major Oliver. As practised by Dr. William Ewart, tracheal tugging is elicited by the observer standing behind the seated patient, whose head is slightly thrown back and steadied against the observer's chest. The tips of both index fingers are then inserted under the lower edge of the cricoid cartilage, which is gently raised by them. If aneurysm exist the pulsation of the aorta will be distinctly felt, transmitted through the trachea to the observer's fingers. If laryngeal distress is present this method of examination will much increase it.

Notwithstanding his eloquent vindication of the utility of sphygmographic tracings for diagnostic purposes, Dr. Sansom (at page 134) expresses the opinion—in which we thoroughly agree—that the signs obtained by careful palpation of all the available arteries on the distal side of a supposed (or suspected) aneurysm are more valuable than those obtained by the sphygmographic exploration of the two radials. We also fully coincide with the author's recommendation—made in detail at page 133 and reiterated here—that the palpation of the arterial system should be made from the centre to the periphery.

The plan of feeling the pulse which Dr. Sansom adopts is to apply one finger only longitudinally over the artery, the patient's forearm and hand being supported by the observer's left hand, or, if necessary, by the thumb and little finger of the right hand grasping the arm on either side. In this way the vessel is felt over a considerable length of its course by one finger of the observer, and varying degrees of pressure can be applied to it; whilst the skin can be pushed up, and the size of the artery and the state of the arterial coats can be determined.

In connection with auscultation we meet with one of the disappointing surprises of this book, and that is the absolute silence of the author as to the researches of Dr. Stokes on thoracic aneurysm and on fœtal rhythm of the heart, especially in fever. That the classical work of the great Irish physician is not unknown to Dr. Sansom is evident, because at page 355 he alludes to "one of the the greatest authorities, the late Dr. Stokes." But why should not "one of the greatest authorities" be quoted in reference to subjects which received their explanation in the light shed upon them by the brilliancy of his genius? It is humiliating to an

Irish physician to read (at page 204) that "Huchard has employed the term 'embryocardie' to designate a condition in which the pauses between the heart-sounds are of equal length, the effect upon the ear resembling the ticking of a watch. The first and second sounds are exactly alike. There is thus a close resemblance to the rhythm of the fœtal heart. Instances are related in which this sign was of importance in prognosis. In typhoid fever and other acute diseases its manifestation was held to be a sign which portended death. When embryocardia is evidenced—the heart's action being also rapid—it is a sign not only of enfeeblement of the heart, but also of considerable reduction of the normal arterial tension, both of these being factors of the state known as *collapse*."

We notice, in the first place, that in this passage Dr. Sansom speaks of "typhoid fever" as being especially prone to induce "embryocardia," but we all know that it is typhus fever which most affects the heart, and to which Dr. Stokes so long ago as 1841 drew attention in this regard. In his classical work on "The Diseases of the Heart and Aorta" (Dublin: Hodges & Smith, 1854, page 379) Stokes writes as follows:—

> "In the next series of cases the signs, though indicative of great weakness, are very different in character. Like the former, they are attended with diminution or loss of impulse; but the disease seems to act more on the entire heart, and we neither observe the predominance of morbid signs on the left, as compared with the right side, nor that of the second over the first sound. In these cases there is no extinction of either sound, but both are diminished in loudness, and become of a nearly similar character. *To this condition I have given the name of the fœtal character, from the close resemblance of the phenomena to those of the heart of the fœtus in utero*—a resemblance which, especially when the pulse is acting at the rate of from 125 to 140, is almost complete."

Dr. Stokes adds (at page 446)—

> "This condition, though implying great debility, is not so certain an indication of softening as that in which the first sound is especially diminished or, it may be, lost."

As to thoracic aneurysm, our opinion is that no abler description has ever been penned than the marvellous word-pictures contained in the eleventh chapter of Dr. Stokes' treatise. The fact is that the tendency of the present day is far too much in the direction of forgetting or ignoring the splendid work done by the clinical teachers of the past—work which, say what men will, bears the same relation to the modern Theory and Practice of Physic that the three-feet walls of an eighteenth century dwellinghouse do to the paper and dado and frieze with which they are overlaid at the close of the nineteenth century.

The foregoing remarks cannot, of course, apply to Part III. of the work before us, even though, in the words of the author, "the idea of making the pulse register its own movements dates from long-past ages; it is said to have occurred to Galileo." It is to Marey that those modern instruments of precision, the sphygmograph and the cardiograph, owe their existence. Were we asked to give two valid instances of the utility of sphygmographic tracings, we would, in the first place, quote Dr. Sansom when he says—"The story which the pulse writes of itself is permanent—*litera scripta manet.*" In the next place, we would refer to the scientific therapeusis of angina pectoris by the nitrites, which was suggested to Dr. Lauder Brunton by the observation that in cases of this exquisitely-painful and most dangerous malady, the arterial tension during an attack is augmented. Dr. Sansom has done full justice to the subject of the sphygmograph and cardiograph in diagnosis, and we have never seen better or clearer reproductions of tracings than in his book. The various names which have been applied to different irregularities of the pulse in volume or in rhythm, particularly by German writers such as Traube, receive an easy explanation in the light of the tracings at pages 464 to 469. For example, the twin-pulse (as Sansom well calls it in preference to Traube's incorrect term, *pulsus bigeminus*), is beautifully illustrated in Fig. 121 on page 465; and so is the alternating pulse (*pulsus alternans* of Traube) in Fig. 123 on page 468.

Chapter LXIV., on "The Cardiograph and its Indications," will be read with special interest, as stress has not hitherto been laid upon the clinical uses of this more elaborate instrument. It is in mitral stenosis especially that cardiograms afford valuable and, to Dr. Sansom's mind, crucial evidence. The characteristic feature of the tracing is an enormous elevation just preceding the ventricular systolic upstroke, which it appears to lift far above the base line. This elevation seems to commence in mid-diastole, when the blood is doubtless urged into the ventricle with force, so as to communicate a shock of tension to the great anterior flap of the mitral valve, which should be audible in the third left interspace. The evidence tends to prove "that the so-called reduplication of the second sound which is heard in a large proportion of the cases of mitral stenosis, is in reality mitral in origin and is a sound of tension of the mitral curtains. When this occurs *early* in diastole, as is most common, there seems to be a reduplication of the second sound. When, as in rare instances, it occurs *late* in diastole—*i.e.*, in the presystolic period—the sounds appear like a reduplication of the first sound" (page 517). At the same time Dr. Sansom admits that, in certain cases, the cardiogram in mitral stenosis may differ in no appreciable way from the normal.

There is a strange difference of opinion as regards the characters of the pulse in mitral narrowing and regurgitation, respectively. Personally our clinical experience would lead us to agree with Dr. Broadbent when he says:—"The pulse, then, of mitral stenosis is regular; its other characters are that it is small, long, and extinguishable by moderate pressure: it could not justly be termed a weak pulse." And, again, of the pulse of mitral regurgitation—"this may almost be said to be the one irregular pulse of valvular disease." Dr. Sansom's sphygmographic investigations have led him to a totally diverse opinion. He has found "that in a large number of cases of mitral stenosis a notable irregularity is the distinguishing mark of the sphygmographic tracing, and that this is rendered evident in very early stages of the disease, even where there may be no sign of cardiac discomfort whatever." And again—"Irregularity is, according to my experience, the most frequent and the most marked characteristic of the pulse-tracings in mitral tenosis" (page 528). Speaking of Dr. Broadbent's statements as to the irregularity of the pulse in mitral insufficiency, Dr. Sansom observes, at page 537—"These views are contrary to my own experience. In compensated mitral regurgitation I have found the pulse as a general rule regular, corresponding with the regular beats and intervals in the heart-tracings which I have analysed. . . In fact, irregularity of rhythm is far more a characteristic of mitral stenosis than of mitral insufficiency."

It is simply impossible to reconcile these statements with the opinion expressed by Dr. Broadbent, and quoted by the author, that in mitral regurgitation "*no two beats of the pulse are alike, either in strength, or duration, or interval.*" It is but fair to Dr. Sansom to mention that Robert Adams (1827), Hope (1831), and Stokes (1854) all agree that in mitral obstruction the pulse is often irregular, small and indistinct, when compared with the cardiac impulse, rapid, but, perhaps apparently, not so frequent as the heart-beat.

To do full justice to a work like that before us is not easy within the limits of a review. We have endeavoured, notwithstanding, to direct attention to a few of the many interesting features of the book. We look upon it as a rich and valuable contribution to the bibliography of heart-diseases, and we eagerly await the promised appearance of its companion volume on the treatment of these affections, so painfully interesting in their origin, recognition, and course, and often, alas! so tragic in their ending.

Syphilis, and the Nervous System: being a Revised Reprint of the Lettsomian Lectures for 1890, *delivered before the Medical Society of London.* By W. R. GOWERS, M.D., F.R.C.P., F.R.S.; Consulting Physician to University College Hospital, &c. London: J. & A. Churchill. 1892. Pp. 131.

WE are glad to see that the interest which these lectures excited, and the necessity which is laid upon their author of frequently referring to them, have, even at this late date, induced him to publish them in book form. They have already been twice published in foreign languages, and it was time that the British medical public should have them in a permanent form easy to refer to.

These three lectures are by no means an account of the various syphilitic affections of the nervous system, with symptoms, treatment, &c., such as we are familiar with in other works on the subject; they are rather a philosophical treatise on the nature of the effects which syphilis produces in nervous structures, these effects being divided into specific and non-specific—the former being those lesions which are invariably caused by syphilis, and by nothing else, and the latter, lesions that are sometimes due to syphilis, and sometimes to some other cause. To the first class belong gummata, syphilitic disease of arteries, some forms of meningitis, and possibly a few other very rare lesions; while in the second class we find a form of disseminated subacute myelitis, a form of multiple inflammation of the spinal roots, and some forms of sclerosis of the brain cortex. With regard to the question of the relation of syphilis to the degenerative processes in the nervous system, Dr. Gowers discusses carefully, and at length, the conditions under which it is possible to draw information from statistics, and shows scientifically how syphilis and tabes must have some relation. With regard to the exact connection between syphilis and these degenerative processes, Dr. Gowers adopts Strümpell's theory that they are due to a toxic agent produced by the syphilis organisms, and left behind by them in the system.

The second lecture deals mostly with the diagnosis of syphilitic disease such as gummata,. arterial disease, &c. This lecture, so to speak, contains more practical "tips" than the other two; while the third lecture treats mainly of prognosis. It is in this that is found the view about which so much controversy has gathered—viz., that syphilis is an incurable disease—an opinion which, in spite of all opposition, Dr. Gowers still holds,; "it is literally correct to say that we have no evidence that syphilis ever is, or ever has been cured." The last part of this lecture treats of the relative value of mercury and iodide of potassium in late syphilitic lesions. The anthor has observed some cases in which the latter drug was useless, while the former caused rapid improvement.

These lectures are most suggestive, and will well repay perusal.

Clinical Diagnosis: the Bacteriological, Chemical, and Microscopical Evidence of Disease. By DR. RUDOLF V. JAKSCH, Professor of Special Pathology and Therapeutics, and Director of the Medical Clinic, in the German University of Prague. Translated from the Third German Edition and enlarged by JAMES CAGNEY, M.A., M.D., Member of the Royal College of Physicians of London; Physician to the Hospital for Epilepsy and Paralysis, Regent's Park; late Demonstrator of Anatomy, St. Mary's Hospital Medical School. With numerous illustrations (partly in colours). London: Charles Griffin & Co. 1893. 8vo. Pp. 460.

IN July, 1890, it was our grateful task to write in terms of approbation of the first English edition of Dr. von Jaksch's "Clinical Diagnosis." We described it as a work "which has already become classical in Germany, and which is destined to earn a great reputation in English-speaking countries also." The forecast embodied in these last words has been fulfilled, and we heartily welcome the appearance of a second English edition within three years of the publication of the first.

There are some notable changes in the present issue. In the first place, it is translated from the third German edition, which was brought up to date by Prof. von Jaksch. Next, Dr. Cagney has again, as in the first edition, and with the approval of the author, introduced a good deal of new and original matter, for which he undertakes the sole responsibility. This new matter is in every case distinguished by being enclosed within square brackets. Thirdly, it will be remembered that the former English edition ended with an appendix contributed by Dr. William Stirling, Brackenbury Professor of Physiology and Histology in the Owens College, and Professor in the Victoria University, Manchester. In the present edition Dr. Stirling's contributions have been incorporated in the text, and the appendix disappears. The book now runs to 460 pages, as compared with 398 in the previous edition.

In Chapter I., on the Blood, the chief additions are: a full description of Hedin's hæmatocrite, an instrument which enables one readily to estimate the volume of the red blood corpuscles; a reference (at page 30) to the case of undoubted myelogenic leukæmia described by Dr. Wallace Beatty in 1891; an account of anæmia infantum pseudo-leukæmica, so-called by the author in communications made in 1889 and 1890; and an interesting note (at page 38) on changes in the formed elements of the blood after hæmorrhage and in infectious diseases (secondary anæmia). The most important change in this chapter, however, is the omission of the parasites of malaria from the list of vegetable parasites invading the blood, and the addition of a full description of them under the heading of "Animal Parasites (*Hæmatozoa*)," at p. 49 *et seq.* "Under this heading" (Protozoa), observes the author, "are to be described the micro-organisms of malaria—parasites of very great interest, which occur in the two principal varieties of *Hæmamæba malariæ* and *Laverania malariæ*."

In Section VI. of this same chapter on the blood, paragraph 4, on uric acid and xanthin-substances, has been much expanded; and the same remark applies to paragraph 5, which is now headed "Carbo-hydrates," and is subdivided into three parts, on grape-sugar, glycogen, and cellulose, respectively. This excellent chapter concludes with a note on Hammerschlag's method of quickly determining the specific gravity of the blood by placing a drop of it in a mixture of chloroform and benzol, two liquids of widely differing specific gravity, but which are freely miscible. Chloroform or benzol is alternately added, so that the density of the mixture is constantly changed, until at last the drop of blood remains suspended in it. When this point is reached, the specific gravity of the liquid is ascertained in the usual way. That of the blood is of course the same.

The foregoing analysis of one chapter as it appears in the two editions will suffice to show that this work on Clinical Diagnosis has been kept thoroughly up to date. Its manner and its matter are alike admirable, and we heartily recommend it as a safe guide to the modern aids to diagnosis.

A Pocket Medical Dictionary, giving the Pronunciation and Definition of about 12,000 *Words used in Medicine and the Collateral Sciences.* By G. M. Gould, M.D., Ophthalmic Surgeon, Philadelphia Hospital. London: H. K. Lewis. 1892. Pp. 317.

This dictionary is exceedingly nicely printed and got up generally. It is intended to fit the pocket, so that the practitioner may readily consult it when he comes to a term he does not understand. For this purpose its shape and size make it exactly suited. With regard to its contents, it appears to us much the same as most other medicial dictionaries. Some words which we should have expected are omitted—*e.g.*, coccidium. Some pronunciations are wrong—*e.g.*, angīna. Some definitions are incorrect—gynæcology is defined as "*a treatise* on the diseases of women." Gray matter is "the cortical substance of the brain" (we fear Dr. Gould's studies in the anatomy of the nervous system were not deep or successful if this is the only "gray matter" he knows of). We should have thought that most medical men knew that "serious" meant "grave." However, if any one wishes to buy this dictionary, we have no objection.

The Calendar of the Royal Veterinary College for 1892. London: 1892. Pp. 138.

This is the first Calendar issued by the Royal Veterinary College, and has the Charters, all the arrangements for the Session 1892-3, and last Session's Examination Papers. The Calendar is nicely brought out, and appears very complete. The information it contains ought to be of assistance to those who are anxious to see a Veterinary College established in Dublin.

PART III.

SPECIAL REPORTS.

REPORT ON MATERIA MEDICA AND THERAPEUTICS.*

By WALTER G. SMITH, M.D. Univ. Dubl.; President of the Royal College of Physicians of Ireland; Physician to Sir Patrick Dun's Hospital; Professor of Materia Medica, School of Physic in Ireland, Trin. Coll. Dubl.

A CONSIDERABLE number of new synthetically formed compounds have been proposed within the past year. Many of them are doubtless of ephemeral reputation, and no discovery of first-class importance can be chronicled. The three modern antipyretics, antifebrin (acetanilide), antipyrin (phenazone), and phenacetin, have secured a foremost place. Not only has antipyrin maintained its position as an antipyretic and anodyne since its official recognition, but (as pointed out in *Pharm. Journal*, Jan. 2, 1892) the property possessed by it of combining with many other bodies, especially phenols, probably owing to the CO group contained in it, has led to many experiments in the direction of grafting with it other remedies. Among the earliest of these combinations may be mentioned the compound or compounds of antipyrin with chloral hydrate, one of which has now, however, taken its place in medicine under the name "hypnal." A compound of iodine with antipyrin has been described as "iodpyrin," but, like many of the other "pyrin" compounds mentioned, has yet to make its reputation in medicine. On the other hand, phenacetin is said to form an iodine compound—"iodphenin"—containing 50 per cent. of iodine, two-thirds of which is very loosely combined, to which the extraordinary bactericidal properties attributed to the compound may possibly be due. But a still more interesting derivative from phenacetin is that which has been called "phenocoll," which is noticed further on.

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* This Report is based upon an article by the writer in the "Year-Book of Treatment" for 1893.

Among antiseptics, aristol—a loosely bound combination of iodine with thymol—has increased in reputation, and has been the subject of a considerable amount of literature, although it would appear probable that a really pure and definite dithymol-iodide would be too stable to be fully effective as ordinarily used. The acceptance accorded to aristol has led to suggestions of similar compounds, among which is one that has been named "europhen," which is represented as being a product of the action of iodine upon isobutyl-orthocresol. It is said to contain 27·6 per cent. of iodine, and to present the advantage of being comparatively free from odour, non-toxic, and very light. Another addition to the same class is iodo-β-naphthol, described as odourless, tasteless, and insoluble. Benzoyl-β-naphthol has also been recommended as an advantageous intestinal antiseptic, and styracol, the cinnamic acid ester of guaiacol, as well as benzoyl-eugenol and cinnamyl-eugenol, are under trial as internal remedies in tuberculosis.

The therapeutics of tuberculosis still wait for the master hand, and as yet no definite verdict can be given upon its treatment by either (*a*) bacillary cultures (tuberculin: tuberculocidin); or (*b*) chemical antidotes (guaiacol: benzosol; potassium cantharidate, cocaïn cantharidate, &c.).

ANÆSTHETICS.

Chloroform.—The questions which have recently been raised as to the relative purity of different kinds of chloroform, and the influence of possible impurities upon the safety of the induction of anæsthesia, have received considerable attention.

Dr. Biltz has lately published a monograph dealing with this subject, and his observations are of practical importance.

Dr. Biltz regards it as an established fact that the decomposition to which chloroform is liable does not result from the presence of certain impurities, as has been assumed, but that it is a natural characteristic of chloroform. The purer chloroform is, and the greater its freedom from alcohol, the more readily and the more rapidly does it undergo decomposition when exposed to light in vessels of white glass containing air. It is to this decomposition that is to be ascribed the danger attending the use of chloroform for medicinal purposes. The decomposition is brought about by atmospheric oxygen displacing, under the influence of light, a portion of the chlorine, while at the same time there is a formation of phosgene gas and water.

The protection afforded by the presence of alcohol, however, is but limited. The joint action of air and light still causes decomposition, but while alcohol is present it takes up the prejudicial products of decomposition, forming with them products which are harmless, and even suitable for producing anæsthesia. When the alcohol has been exhausted in this way the liberation of chlorine and the formation of phosgene gas are no longer counteracted. The time that may elapse before this decomposition commences is dependent upon the intensity of the light to which the chloroform is exposed, also to some extent upon the quantity of air with which it is in contact. Consequently in diffused daylight the alteration is more rapid in summer than in winter, and it is still more rapid in direct sunshine. In the latter case chloroform absolutely free from alcohol will be decomposed within one or two hours in summer time, and in diffused daylight within one day, while in winter it may take ten days, according to the clearness of the atmosphere. In regard to the protection afforded by alcohol, Biltz finds that with 1 part of alcohol in 400 decomposition is prevented only for a few weeks or months. With double that proportion the preventive effect lasts for eleven months, and with 1 per cent. it continues much more than a year. He is of opinion that all the statements made as to the keeping quality of certain kinds of chloroform point only to the circumstance of failure to detect the presence of alcohol to which the permanence of the chloroform was due. It will be remembered that a new method of refining chloroform has been introduced by M. Pictet. His process mainly consists in subjecting chloroform to intense cold, by which it is caused to crystallise, and the crystals when separated and liquefied furnish absolutely pure chloroform.

Biltz finds that Pictet's chloroform is one of the best, if not the best, to be met with. But Schacht and Biltz demonstrated to the Berlin Pharmaceutical Society, that the Pictet chloroform undergoes decomposition precisely in the same way and at the same rate as ordinary chloroform, and that the precautions of adding alcohol and keeping in the dark are as indispensable in the one case as in the other.—(*Pharm. Journal*, June 18, 1892, from *Pharm. Centralhalle.*)

Dr. R. du Bois-Reymond has investigated the physiological action of Pictet's purified chloroform, and of the residue containing the impurities. He found that the latter diminished blood-pressure, and reduced the heart's beat in a marked degree (*Brit.*

Med. Journal, Jan. 30, 1892). Drs. Charteris and MacLennan have examined six different brands of chloroform, and conclude that different chloroforms exhibit a very evident diversity of action. Some sorts caused tremors (in guinea-pigs), and some varieties did not (*Brit. Med. Journal*, March 26, 1892). These inquiries are of considerable interest, even although they do not bring us much further than we were.

Local Anæsthesia.—Schleich, in order to avoid all possible danger of intoxication from cocaïn, recommends what he terms the "infiltration method." This consists in multiple injections, over a small area, of a very dilute (⅕ per cent.) solution of cocaïn. It has been long known that hypodermic injections of pure water can induce slight local anæsthesia, acting on the tissues as a chemically different body, for "physiological solutions" of salt or sugar have no such effect. The maximal dose of cocaïn thus administered would be about ½ grain. By the aid only of ⅕ per cent. cocaïn solution, combined with ether-spray, the author has carried out 224 operations, including five laparotomies. Gluck and Oppenheimer confirm Schleich's results, and the latter testified that he had himself undergone an operation for sloughing whitlow of the thumb, involving scraping out the bone and cauterisation with zinc chloride, without the least pain, under Schleich's method.—(*Therap. Monatsh.*, Jan., 1892.)

Cocaïn.—Bignon draws attention to an important practical point relating to cocaïn. He points out, and the writer can confirm it, that cocaïn in *acid* solutions loses its anodyne power. All mineral acids conceal the anodyne virtue of cocaïn, which, however, is fully restored by neutralisation with sodium carbonate. The maximum anæsthetic effect is obtained when cocaïn is suspended in a feebly alkaline fluid ("cocaïn milk"). The commercial salts of cocaïn are often acid, and Bignon thinks that variations in the acidity of the solution are the chief cause of the differences of opinion as to the dose requisite for local anæsthesia.—(*Therap. Monatsh.*, June, 1892, from *Bull. Gén. de Thér.*)

Dr. Chadbourne, U.S.A., has investigated, in Liebreich's laboratory, a new coca base, which he terms tropa-cocaïn (benzoyl-pseudo-tropeïn). It closely resembles but is not identical in local action with cocaïn. It is less toxic, and its solutions keep better.

Action of Tropacocaïn on the Human Eye.—Professor Schweigger finds that the muriate tropacocaïn causes complete anæsthesia more quickly than cocaïn solution of the same strength. This anæsthesia does not last as long as that produced by cocaïn, but a drop or two of the solution can be added from time to time, and complete anæsthesia thus kept up as long as is necessary.

Mydriasis was occasionally seen, but only in slight degree. No ischæmia was present; on the contrary, in a few cases there was very slight congestion for a few seconds. No harmful symptoms of any kind were seen, and in most cases tropacocaïn seems to be as good as, in some cases better than, cocaïn. For the extraction of foreign bodies from the eye tropacocaïn is preferable to cocaïn because of its quicker action, and iridectomy has been performed in less than two minutes after one or two drops of a 3 per cent. tropacocaïn solution had been put upon the eye, and without pain being felt by the patient.

Dr. Silex, first assistant of Professor Schweigger, has used tropacocaïn in his practice, and has obtained similar results. He has performed tenotomy in less than half a minute after applying a 3 per cent. tropacocaïn solution, and the operation was painless. In all cases a 3 per cent. solution was used, and whether a weaker solution would give as good or a stronger better results is yet to be proved.

It is to be hoped that tropacocaïn will soon be given a trial in other than ophthalmic work, and for actual use the synthetically prepared hydrochlorate of tropacocaïn is to be recommended.—(*Brit. Med. Journal,* Aug. 20, 1892.)

ANTISEPTICS AND ANTIPYRETICS.

General Remarks.—Of late years great advances have been made in the study of antiseptics. As soon as it was discovered that substances containing the benzene nucleus—such as phenol—possessed germicide properties, chemists at once set to work to test the powers of such bodies to see whether any of them were superior to carbolic acid. As the result of their studies we have a number of new preparations—aseptol, creolin, sozoiodol, lysol, &c.—all of which deserve careful attention. By the action of sulphuric acid on benzene compounds, stable bodies, termed sulphonic acids, can be formed. The formation of sulphonic compounds probably explains the results of Laplace, who found that mixtures of phenol and sulphuric acid were more powerful antiseptics than the parent substance. In making similar experiments Hueppe found that better results were obtained by using crude phenol than with the pure phenol. From this he concluded that the higher homologues were capable of affording more powerful antiseptics than phenol. Fraenkel fully corroborates this idea, and, in his researches on cresols, found also that addition of sulphuric acid increased their antiseptic power. Metacresylsulphonic acid was found to be the most active compound. Unfortunately, however, these compounds were so irritating and so caustic that their use was very limited, and other methods of using the cresols had to be sought. As a first step soapy emulsions were prepared by treatment with alkalies, and yielded the creolins and the lysol of commerce—all highly alkaline emulsions of the higher coal-tar distillation products, prepared with the aid of a resin soap. These are powerful antiseptics, but all possess the disadvantages of (1) very variable composition; (2) causing instruments and fingers to become slippery by reason of their free alkalinity; (3) becoming oxidised on exposure to the air.

Benzoyl-Guaiacol (Benzosol), a compound of benzoic acid and of guaiacol, the chief active constituent of creasote, is recommended by Dr. F. Walzer as an agreeable and harmless substitute for creasote. Commercial creasote is usually contaminated with cresols, which are very irritating. Benzosol is a colourless crystalline powder, almost tasteless and odourless. It is insoluble in water, and in the digestive tract, chiefly in the small intestines, splits up into guaiacol and benzoic acid.

Dose, 4 to 12 grains, in cachets or pastilles. Guaiacol-carbonate has also been proposed as an unirritating form of administration in tuberculosis. Dose, 3 to 7 grains and upwards.

Dermatol, a commercial name for a basic gallate of bismuth. It is a yellow, insoluble powder, resembling in appearance iodoform, and is recommended as an odourless substitute for it. It lessens secretion from moist surfaces, and promotes healing, but the experience of several observers scarcely justifies us in ranking it as equal in efficacy to iodoform. Bluhm and Davidsohn (*Ther. Monatsh.*, Dec, 1891), Colasante, Asua, and Bürtzeff (*Brit. Med. Journal*, 1892).

Werther and Isaac speak highly of it (*Ther. Monatsh.*, 1892).

Diaphtherin (*διαφθείρω*, to destroy). This body is a sulphonic derivative of oxychinolin, and is related to aseptol. It occurs in amber yellow crystals, and differs from many other "aromatic" antiseptics in being readily soluble in water, in almost every proportion, and in dilute spirit. Its watery solution gives a blue green with ferric chloride, and excess of soda precipitates oxychinolin. Kronacher (*Münch. med. Woch.*, May 10, 1892), relates his experience of diaphtherin (oxychinaseptol), while Emmerich (*ibid.*) shows that this drug, even in weak solutions, possesses powerful bactericidal properties, while its toxic properties are slight. Kronacher has used it in surgical practice for more than a year, and mostly in 1 per cent. solution. In cases of ulcers, &c., and as an antiseptic in operations, it has given the desired results. No ill effects have been noticed when it has been applied to large surfaces, as in extensive operations. In a few cases it has given rise to a slight feeling of burning, but this has quickly passed away, and eczema has never been produced by it. Instruments should be placed in some other antiseptic solution, as a black deposit is formed on them if the nickel in them is not pure. Diaphtherin has been especially useful in cases of burns and ulcers of the leg.—(*Brit. Med. Journal*, June 4, 1892, and *Therap. Monatsh.*, July, 1892).

Paracresotic Acid.—A homologue of salicylic acid, obtained from cresol. In white needles, easily soluble in alcohol, chloroform, and ether; almost insoluble in water. It is the least poisonous of the three isomeric cresotic acids, and the only one that can be safely used. As an antipyretic it is inferior to salicylic acid, but is better tolerated by the digestion (*The Extra Pharm.*, 1892). Egasse (*Bull. Gén. de Thér.*, Jan., 1892), draws attention to the value of paracresotic acid as an antipyretic. It has been employed in the form of a cresotate of sodium by Loesch, who found that doses of 6 to 8 grammes were perfectly well borne by adults. Demme has chiefly employed this drug in children for its antipyretic and antifermentative action. He finds it of great benefit in acute articular rheumatism, having somewhat the same action as salicylic acid, while it is better borne. In the catarrhal pneumonia of children it has been employed in the dose of 10 centigr. every two hours, and has shortened the course of the disease and rendered recurrences less frequent. In typhoid fever it diminished the diarrhœa. It also gave good results in the gastro-intestinal catarrh of nursing women. The maximum daily dose for young children should not exceed from 0·5 gramme to 1 gramme, but young adults may take from 3 to 4 grammes daily (*Brit. Med. Journal*, March 19, 1892). A preparation termed *Solveol* is a solution of sodium cresotate with cresols.

Phenacetin in Influenza.—This medicament, which in Italy is used as an analgesic-antithermic in the treatment of influenza, has been successfully employed by Dr. Baude in the Military Hospital at Lille. Its action is prompt, and does not, like quinine and salicylate of sodium, give rise to surexcitation or ringing in the ears. Phenacetin increases the urinary secretion, and hence it does not determine, by accumulation, the appearance of toxic phenomena. It has no unfavourable action upon the kidneys. The dose of phenacetin varies from 1 to 1½ grammes daily, given in three or four doses at equal intervals. The amelioration in the patient is apparent after the first dose. The temperature falls and the pains cease promptly. The feeling of fatigue disappears more slowly. There is an augmentation of urine, and this, with transpiration, marks the breaking up of the malady. In twenty-four to forty-eight hours after the beginning of treatment by phenacetin all symptoms disappear, and the patient enters into convalescence.—*Bulletin Méd., Du Mord.; Bull. Thérap.*, June 8, 1892.

Phenocoll Hydrochlorate.—Hertel, Herzog, and Aronsohn have given favourable accounts of it, and Cohnheim reports additional investigations with this drug in twenty cases. In five cases it was used as an antipyretic. A marked effect was produced in from three to four hours, the average fall of temperature being 2° F., and once 4° F. There was some chilliness, and even more sweating than with antipyrin. It was used as an anti-neuralgic in ten cases, seven of which were suffering from influenza. Its therapeutic effects here would place it alongside the best anti-neuralgic remedies. It was useless in hysteria, as well as in cases where other anti-neuralgic remedies failed. It was of service as an anti-rheumatic in two cases of acute rheumatism, but without effect in a case of chronic rheumatism. It gave a negative result in two cases of bronchial asthma. A not inconsiderable antipyretic effect was noted after a single dose of 0·5 g. As an anti-neuralgic it was given in 0·5 g. doses three times a day. The largest single dose given was 1 g., and the largest amount in the day 4·5 g. No unpleasant effects, such as collapse, &c., were produced by it. the author strongly recommends the further use of this drug in neuralgia, and especially when it is due to influenza (*Ther. Monatsh.*, Jan., 1892). Albertoni (*Rif. Med.*, Jan. 5, 1892) reports a series of thirty-four cases of malarial fever which were treated with phenocoll. Of these twenty-four were permanently cured, in five the result was *nil*, and in the remaining five it was doubtful. In some of the cases which were cured the disease was very severe, and quinine had done little or no good. The dose of phenocoll used was always 1 gramme, given in powder or solution from five to seven hours before the attack. The substance produces no disagreeable effects, and its taste is easily masked by sugar. The attack was cut short after one, or at most two, doses, but the administration of the drug was continued for some days after the cessation of the fever in order to prevent relapse.—(*Brit. Med. Journal*, April 2, 1892.)

Salophen.—A compound ether of salicylic acid. It contains 59·9 per cent. salicylic acid, and occurs in minute white scales, almost insoluble in water. It is tasteless and inodorous, and was introduced as a substitute for salol on account of the ill effects thought to result from the liberation of phenol from the latter. Like salol it is unaffected by acid gastric juice, but is decomposed in the small intestine, salicylic acid being set free. Any undecomposed salophen is excreted in the fæces.—(*Therap. Monatsh.*, January, 1892.)

Frohlich speaks most favourably of its action in acute rheumatism, and prefers it to sodium salicylate or salol, because it is non-hygroscopic, keeps well in any form, is tasteless, and does not cause the unpleasant effect often induced by the former drugs (*Ther. Monatsh.*, Sept., 1892). Salophen is sometimes excreted in the crystalline form in the sweat.

Salipyrin.—A compound of antipyrin and salicylic acid has also been successfully used by Trechtenberg in acute rheumatism, and is effective even in chronic rheumatism and sciatica. Dose, 1 gramme several times a day.—(*Brit. Med. Journal*, Epit., July 30, 1892.)

Lysol.—A German competitor of creolin. It is a dark-coloured alkaline liquid, incompatible with acids. Pée (*Deutsch. med. Woch.*, Oct. 29, 1891) records his opinion of the high value of lysol as an antiseptic, and points out the advantages it possesses over similar substances in solubility, convenience, cheapness, and safety. Consisting of a mixture (in about equal proportions) of cresol and soft soap, lysol is readily soluble in water at any temperature. A 1 in 200 solution destroys streptococci in fifteen minutes, resembling in this respect a 1 in 500 solution of corrosive sublimate, and a 1 in 200 solution of carbolic acid. Lysol is equally suitable for disinfecting the hands, instruments, or the field of operation, while its poisonous potency is only one-eighth that of carbolic acid and half that of creolin. As a disinfectant in midwifery, Pée recommends a 1 per cent. solution of lysol, his experience of its use having been very favourable. It is especially suited for midwives and nurses on account of its safety, cheapness, and convenience (*Brit. Med. Journal Suppl.*, Nov. 28, 1891). Cadéac and Guinard also consider lysol to be a useful and cheap disinfectant, of sufficient activity.

Peroxide of Hydrogen.—From a large experience with this drug, Stuver (*Therap. Gazette*, March, 1892) draws the following conclusions:—(1) A reliable solution of hydrogen peroxide is an efficient and safe germicide; (2) by its oxidising power it rapidly decomposes pus, diphtheritic membranes, and other pathological decayed deposits and effusions; (3) it is an excellent deodoriser, and a non-irritating cleansing agent for foul wounds, abscesses, &c.; (4) it is a valuable diagnostic agent in determining the presence of pus, for, when injected into a part in which suppuration is suspected, it will indicate pus, if present, by causing almost immediate tumefaction. When employing the drug in this way the surgeon must be prepared at once to use the knife should his suspicions prove correct, as thereby pain will be avoided. A number of suppurating buboes treated by the author did admirably under this method.

Boric Acid.—The therapeutic value of boric acid externally is admitted, and it is largely and successfully used in surgical practice. Jaenicke has submitted it to a thorough investigation, and concludes that although it is a very feeble disinfectant, yet, when freely used, it has remarkable powers in preventing the development and increase of micro-organisms, and of their toxic products. Boric acid, at ordinary temperatures, is soluble in water to the extent of 4 per cent. only. But Jaenicke has discovered that a compound can be prepared by heating equal parts of borax, boric acid, and water to boiling point, which dissolves in water to the extent of 16 per cent. It retains all the virtues of boric acid, and he has employed it with great advantage in purulent affections of the middle ear.—(*Ther. Monatsh.*, Sept., 1891.)

Europhen.—It is known that by the action of iodine upon bodies of the phenol series in the presence of alkalies, compounds are produced that are claimed to possess antiseptic properties. The best known of these is the "dithymol-iodide," which has been introduced into medical practice under the name "aristol." It is now stated that similar properties are possessed under more advantageous conditions by certain compounds formed in a like manner from substitution derivatives of homologues of phenol, and one of these has been described under the name "europhen." Europhen is an amorphous yellow powder, resinous to the touch and adhering to the mucous membrane or intact cuticle much more readily than iodoform. It is stated to have a peculiar aromatic odour, recalling that of *o*-cresol and also of saffron. In water and glycerine it is insoluble, but it is freely soluble in alcohol, ether, chloroform, collodion, traumaticin and fixed oils. A solution in oil is said to be useful for subcutaneous injection in various affections, but it should be filtered before use. The europhen action seems to be similar to that of iodoform, by slow liberation of iodine in contact with pus, but it is claimed that the new compound presents the advantage of being comparatively free from odour, non-toxic, and so light that a given weight of europhen will cover five times as much wound surface as the same quantity of iodoform. The selection of a trivial name for this novelty can hardly be deemed a happy one, since "europhen" is sufficiently near to "*euphorin*," the designation recently applied to phenyl-urethane, to provide for a considerable amount of confusion should both compounds come into general use (*Pharm. Journal,* Aug. 1, 1891). The observations of Lowënstein and Nolda attest the above statements (*Therap. Monatsh.*, Sept., 1891 and Oct., 1891). Several Russian surgeons have also reported upon europhen as a useful substitute for iodoform.—(*Brit. Med. Journal Epit.*, Aug. 13, 1892).

Thiophen Iodide, another rival of iodoform, is recommended by Hock, of Vienna. Thiophen (C_4H_4S) is a sulphuretted hydrocarbon of the aromatic series, and its iodide ($C_4H_2I_2S$) crystallises in white plates, insoluble in water; soluble in alcohol, ether, or glycerine.—(*Ther. Monatsh.*, Feb., 1892.)

Ichthyol.—This curious compound maintains its place, and a considerable literature has gathered around it. A few of the recent researches may be alluded to. M. Latteux, of Paris, has shown, by bacteriological experiments, that ichthyol has well-marked antiseptic qualities (*Extr. des Bull. et Mém de la Soc. de Méd. Prat.*, 1892). Jadassohn strongly recommends the treatment of gonorrhœa by (1 per cent. and upwards) injections of ichthyol, and thinks that by its means "the ideal of the treatment of gonorrhœa is attained" (*Deutsch. Med. Woch.*, 1892). Several authors—German, French, and Italian—confirm Freund's high estimate of the value of ichthyol as an anodyne and absorbent in inflammatory affections of the female genital organs, and Klein considers it almost a specific in the treatment of erysipelas. He employs an ointment of equal parts vaselin and ichthyol.

Two substitutes for ichthyol have been lately proposed:—

Thilanin, a brown sulphuretted (3 per cent. sulphur) lanolin, recommended by Saalfeld as an energetic and yet unirritating remedy in eczema.—(*Ther. Monatsh.*, Nov., 1891.)

Tumenol, a sulphonised product of mineral oil, miscible with water. Applied dissolved in a mixture of equal parts of ether, rectified spirit, and water or glycerin. Commercial tumenol is a mixture of a sulphone and a sulphonic acid. These are prepared for separate use, and are termed "tumenol oil" (tumenol-sulphone) and tumenol powder (tumenol sulphonic acid). Neisser speaks well of the use of tumenol in eczema, ulcers, and as an antipruritic.—(*Ther. Monatsh.*, May, 1892.)

New Uses for Sulphonal.—Apart from its uses in simple insomnia and some of the neuroses, sulphonal appears to have been of value in controlling such symptoms as reflex spasm and the uneasiness following traumatic injury. We note (*Medical Record*, July 2, 1892) that Dr. Edmund Andrews, of Chicago, speaks of sulphonal as a certain remedy in the treatment of muscular cramps of the legs appearing during the night, and especially those accompanying those of the long bones. In a case of recently-fractured femur fifteen-grain doses gave immediate relief. In the after-treatment of laparotomy, Dr. A. F. Jonas (*Omaha Clinic*, August, 1892) says that the symptoms of sleeplessness occurring in these cases should always be relieved lest insomnia seriously complicate recovery; he usually gave sulphonal in such conditions. Dr. Althaus (*Amer. Jour. Med. Science*) recommends sulphonal for the insomnia liable to occur in the treatment of post-grippal psychoses. Dr. Alexander J. C. Skene has employed sulphonal in the after-treatment of laparotomy. He writes as follows (*In. Med. Mag.*, March, 1892) :—"Sulphonal does remarkably well as a sleep producer, and is much preferable to bromide, chloral, or any combination of such remedies. It produces the desired result in the great majority of cases that are not kept from sleep by severe pain. This remedy is worthy of note as rather new, and is certainly one that will cause sleep with no other perceptible effect, good or bad."

Treatment of Insomnia.—Dr. Joseph Collins, of New York (in *Journal of Nervous and Mental Disease*), contrasts the action of chloralamid and sulphonal in the treatment of insomnia, and arrives at the following conclusions:—

1. Chloralamid is a safe and one of most reliable hypnotics.
2. It is not ordinarily followed by distressing after-symptoms, particularly headache.

3. It is especially valuable as a hypnotic where pain is a potent factor, but not violent.

4. In cases of insomnia, where there is excessive activity of the brain, it is also useful.

5. On account of its stimulating activity of the respiratory function, it is the hypnotic *par excellence* in nervous exhaustion, associated with an asthenic condition of respiration and complex symptoms indirectly dependent upon this, brought about by defective oxidation and the formation of unstaple chemical compounds in the system.

6. On account of its very slight action in depressing the circulation, it can be given in diseases associated with a weak heart, with greater safety than most other hypnotics, not excepting chloral itself.

7. It is conveniently administered in the shape of an elixir, and this overcomes the need of dissolving it.

8. Its dose is from one to three scruples, administered one hour before sleep is desired, and this should not be repeated within two hours, for occasionally the action of the drug is delayed.

Sulphonal is preferred when we wish to get very rapid action. It should be given dissolved in boiling water, taken as hot as possible. In this way it is at once absorbed, sleep frequently occurring in from fifteen to twenty minutes. The disadvantages of sulphonal are that the patient is liable to form the sulphonal habit, and that its effects last through part of the following day.

CONGRÈS FRANÇAIS DE CHIRURGIE, 1893.

The seventh session of the French Surgical Congrèss will open at the Faculty of Medicine, Paris, on Monday, April 3, 1893, under the presidency of M. le Professor Lannelongue, of Paris. The first meeting (devoted to various questions) will take place at 9 o'clock a.m. in the large theatre of the School of Medicine. The formal inaugural meeting of the Congress will take place at 2 o'clock p.m. Two questions have been set down for discussion on the programme of the session :—1. Fibrous Tumours of the Uterus; 2. Surgical Treatment of Tubercular Affections of the Foot. The morning sittings of the Congress will be devoted to visits to the hospitals and to the discussion of various questions. The members of the Congress were requested to forward, not later than February 15, the title and conclusions of their communications, to M. Félix Alcan, publisher to the Congress, 108 Boulevard St.-Germain. to whom also all inquiries respecting the Congress should be addressed. The Secretary-General is Professor S. Pozzi, Paris.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

CLINICAL RECORDS.

Clinical Experience at the London Temperance Hospital.

THE following remarks formed the closing part of the address given by Dr. James Edmunds, of London, at the breakfast of the United Temperance Movement in Dublin in October, 1892[a]—Professor Hamilton, President of the Royal College of Surgeons in Ireland, in the chair:—

I have been asked to add some words as to our clinical experience at the London Temperance Hospital, which, as you know, I have been active in founding and working. In 1868, when we first began non-alcoholic treatment methodically in a London hospital, the practice often was to order alcoholics as a sort of cure-all in almost every case. Those of us who disbelieved in this practice and saw the vast evils which grew out of it found ourselves face to face with the mass of our medical brethren. Eminent physicians, like Dr. Todd, constantly prescribed alcoholic beverages almost to every patient, who consulted them. An ailing girl—perhaps a girl too tall for her age, and who had overgrown her strength—perhaps a young girl damaged by sitting up late at night because her mother was a bad manager and did not put her child properly to bed—perhaps a girl whose mother was a wasteful marketer, or a bad cook, and who did not get that kind of food which would solidify her growing frame properly; such a girl when taken to the doctor was ordered stout, or port wine, or sometimes "a little brandy and water when low or faint." In this way Temperance Reform was continuously thwarted, and medical prescription actually became one of the chief factors in the manufacture of drunkards. Unfortunately, all this was done with the best motives. It was not the motives of the doctors that were at fault, but only their senses. Such doctors were, consequently, very difficult "to get at." They naturally sheltered themselves behind their sense of professional duty, and behind their own perfectly honest conviction that these young people would not do well unless alcoholics were given to them. As to those of us who set ourselves against this indiscriminate prescription of alcohol, we were spoken of very kindly by our medical brethren, but as cranks, as "teetotal doctors;" as most excellent men—very much like excellent mathematicians, whose craze for a straight line was so great that, as navigators, they would run their ship on to a rock rather than trim their sails or bend their course. Sometimes, when we got on to the platform or into the newspapers, we used to take it out of our medical brethren; but the whole position was a very unsatisfactory one, and the old temperance workers got very savage when some poor drunkard of whom they had made an abstainer, and who had since got a nice little home round him, had a bad cold, or something, and went to his club doctor and was told oracularly and solemnly that he must take stout. These doctors did not see beyond their own scientific noses, whereas the temperance worker saw the whole vista of drunkenness and misery to which the good doctor was opening the door. Well, under these circumstances, in the year 1868, methodical clinical work on classical lines of medical treatment, but apart altogether from the routine administration of alcohol, was commenced by me at the British Lying-in Hospital. This was done in order to demonstrate whether the "brandy doctors" or the "teetotal doctors" were the real cranks.

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[a] See the Number of the Journal for January, 1893, page 52.

The results were perfectly satisfactory. But no sooner had this new treatment been got well under weigh than a difficulty cropped up with the religious brewers and distillers who were among the governors of that hospital, and at the governors' meetings a chronic fight began, with a view to put down this "teetotal fanaticism." Nurses, also, who had been accustomed to assist the patients with their wines and spirits, disapproved exceedingly of these "teetotal notions." After about a year, this work at the British Lying-in Hospital had to be abandoned, and some time later, those who had supported this non-alcoholic treatment formed a committee and founded the London Temperance Hospital. This hospital therefore was founded as a refuge where a reformed drunkard could be sent for an operation, or for a serious illness, and where he would be secured against the medical prescription of alcohol, unless by physicians who had well thought the subject out from a temperance standpoint, and who were clear that alcohol would be really beneficial. In all other respects the patient was to be treated on classical lines, just as in your celebrated Dublin hospitals. While this was a main motive in the foundation of this hospital, there was no restriction as to the admissions, either on the ground of abstinence or otherwise, while all the ordinary medical and surgical cases were to be admitted precisely as into any other general hospital in London. Of course the precaution was taken of appointing physicians who were amply in sympathy with temperance work, as well as able to hold their own in medical science and clinical practice. The medical officers thus appointed were put under only one restriction—that of never prescribing alcohol without doing what George Ling had asked me to do—*i.e.*, give a reason for their prescriptions, such reason to be entered at the time by the prescriber in a book kept for the purpose, and labelled "exceptional cases." The rule of the hospital was that as an article of diet alcohol was excluded absolutely from the patients' meal tables; that as a pharmaceutical vehicle alcohol should be got rid of as far as possible; that as a drug it should be prescribed only by the visiting physicians or surgeons, and only under the restriction already described. Special consideration was devoted to getting rid of alcohol from the hospital pharmacy. There are many resinous drugs, such as guaiacum, asafœtida, myrrh, and others, which are soluble only in strong alcohol, and which are usually given in spirit nearly twice as strong as brandy. These can all be given in powder blended with other substances, and the dose stirred into a wine-glassful of milk, as is done with precipitated sulphur. Sometimes these resinous drugs can be given with advantage in alkalised emulsion. In this way the rectified spirit-of-wine tinctures were got rid of altogether. Then, as to the weaker spirituous tinctures, about equal in strength to brandy, we found that a solution of glycerine and distilled water (in equal parts) dissolved out the virtues of almost all drugs that were kept in the form of the weaker alcoholic tinctures. Many substances, again, could be given in the form of pill, tabloid, powder, or sugary confection. The result was that we were able to abolish almost entirely the use of alcohol as a pharmaceutical vehicle. Thus we started fairly, and on a sound scientific basis, with our medical prescriptions. This hospital has been very largely patronised; there has never been any difficulty with the non-alcoholic treatment, and there never need be any with practitioners who know what they are about. The clinical results have been excellent, and will abundantly bear comparison with those of any other general hospital. This elimination of alcohol from the pharmacy has been an unalloyed advantage, and has saved a large amount of money to the hospital funds. The pure and true action of the drug prescribed is always obtained. The dispensers are never found drunk, and no accident on that score has ever happened.

So great has been the practical success of the work, that we now have upon one of the main thoroughfares in London a finely built, fully furnished, freehold hospital containing 120 beds—a model of economy, comfort, and efficiency—the whole paid for, and free from debt, more than £100,000 having been collected in voluntary subscriptions for the maintenance and equipment of this hospital.

In starting this hospital all sorts of objections had to be confronted. Some of our medical friends considered it "highly unprofessional;" some considered it to be an insult to the other hospitals; and we were threatened with inquests for neglect to save the patients' lives by administering brandy. But the need was clear, and on we went. None of these gloomy prognostications have in any case been fulfilled, but, on the contrary, an impulse to the medical disuse of alcohol has been given all over the world. Reports of this hospital's work may be obtained by anyone who sends a note to the secretary.

There is no doubt that in certain cases alcohol has a powerful drug-action upon the animal body, and that exceptional cases, in which it may be used scientifically, and apart altogether from mere routine, do occur. But those cases are comparatively rare. The tendency of our clinical studies is to diminish the number of such cases, and to show that, in a large proportion of them, other agents serve the purpose better than the alcohol. In cases where an extremely high temperature is endangering the patient's life there can be no doubt that a large dose of alcohol will so far paralyse the heat-producing actions as to materially bring down the *hyper-pyrexia*. But hitting a patient on the head with a bludgeon would also bring down his temperature, and the question is, how far does the molecular concussion of the nervous system which is produced by alcohol, or any other such drug, simply disguise the symptoms or put off the evil hour? And, by immersion of the body in tepid water for a definite time we may abstract redundant heat as completely and rapidly as we choose, the body being meanwhile in no way damaged by drug action. Cold or tepid sponging of the body, a very cool atmosphere, and other measures—even other drugs, have the same action. For my own part, I find these agencies safer and more efficient than the use of large doses of alcohol. There are certain cases of *hyperæsthesia*, such as *laryngismus stridulus* in young children, which by a sort of explosive sensitiveness in the nerves of the larynx produces dangerous suffocative paroxysms. No doubt a few drops of alcohol in water put into such a child's mouth is instantly breathed into the larynx and lungs and relieves the spasm. A whiff of ether or of chloroform has the same action, but if these are not at hand in such cases I should use a half teaspoonful of brandy or whisky to meet an emergency. In cases of heart failure—as in prolonged cases of fever where the heart is practically tired out by having been over-worked for several weeks continuously—there is no doubt that the administration of alcohol increases arterial tension and hardens the pulse. But so would a whiff of carbonic acid. I believe that a pulse hardened in this way by alcohol is not an index of increased strength or of an improved circulation. Increased arterial tension is an evidence of obstruction to be overcome in the capillaries, and of extra strain thrown upon the heart's muscle, rather than an evidence of improved circulation. Such obstruction I believe to be always produced in the capillary current by alcohol, and it produces this by retarding the reactions between the tissues and the capillary blood current. Partial stasis is thus produced, and more power is required from the heart in order to drive on the sluggish current in the capillaries—a current which is closely dependent upon the extra-vascular soakage of the blood-plasma.

But if this be the true explanation of the hardened pulse, it follows that the action is one by which the remnants of the heart's energy are only being more rapidly exhausted. We have a perfect analogy in the action of the respiratory muscles. The most perfect respiration takes place when the respiratory muscles move the least frequently. Tie an animal's trachea, and though you interpose no mechanical obstruction to the blood-current in the lungs, the whole of the capillaries at once refuse to pass their current from the right to the left side of the heart. This is simply because the respiratory exchanges in the lung-cells have been arrested. Let the animal breathe a little carbonic acid, or produce a little asthmatic spasm of the bronchial tubes, and you at once get the respiratory muscles thrown into quicker and more violent action. That increased energy is a measure of the difficulty of the respiration; it is in no sense an evidence of improved respiration. I submit that the analogy holds good with the circulation of the blood, and that anything which hardens the pulse does so because it has made the circulation more difficult. My own convictions are that in these cases of heart exhaustion the patients are more likely to get through if we let them alone, feed them carefully, keep them in the recumbent position, and economise their strength by preventing unnecessary movement. I now never administer alcohol in order to meet this condition. These experiences in clinical medicine I submit also as throwing light upon the physiological action of alcohol as an article of diet. I think that they all exhibit alcohol as a true narcotic—a narcotic in small doses as well as in large doses.

GLYCERINE IN HEPATIC COLIC.

DR. FERRARD concludes a communication to the French Academy as follows:—1. Glycerine administered by the stomach is absorbed in its natural state by the lymphatics, especially by the vessels which lead from the stomach to the hilum of the liver and to the gall-bladder; it is even found in the suprahepatic veins. 2. It is a powerful cholagogue, and an excellent remedy for hepatic colic. 3. In relatively large dose (20 to 30 grammes), glycerine brings an end to the attack. 4. In small doses (5 to 15 grammes), taken each day in a little alkaline water, it prevents new attacks. 5. Glycerine, without being a lithotriptic, is nevertheless a valuable agent in biliary lithiasis.—*Journal de Médécine de Paris* and *Journ. of the American Med. Association*, Nov. 5, 1892.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—George H. Kidd, M.D., F.R.C.S.I.
General Secretary—W. Thomson, F.R.C.S.I.

SECTION OF MEDICINE.

President—Walter G. Smith, M.D.; President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. Montgomery, M.R.C.P.I.

Friday, Jan. 27, 1893.

Dr. Hawtrey Benson in the Chair.

Living Specimens.

Dr. Wallace Beatty exhibited two patients, both being females, with Lupus Erythematosus.

Some Points in the Modern Treatment of Consumption.

Mr. J. Knox Denham read a paper entitled "Some Points in the Modern Treatment of Consumption." [It will be found at page 212.]

Dr. Nixon said that cases of consumption amongst the poor might be divided into those which are curable and those which, although incurable, might be relieved as regards the most distressing symptoms, and have their lives prolonged. The cases coming under the first class were very few. There was not a sufficiently good combination of circumstances as regards climate to give them a favourable chance of recovery while resident in Ireland. The idea of erecting a hospital to treat these patients is mythical. He thought it was better to send them to high mountain regions—to Egypt or to Australia. The second class of cases can be well treated in the wards of a general hospital, requiring, as they do, a good bed, good food, rest, and not too much medicine. These cases would not be admitted into a special hospital for consumption. The last Commission for inquiring into the Dublin Hospitals stated that Dublin was the most over-hospitaled city in the three kingdoms. He wished to call attention to the fact that although the number of beds was large, many of them were kept vacant owing to want of funds. It would be better to spend the money in filling these beds than in building a new hospital.

Dr. J. W. Moore said that he agreed in the main with Mr. Denham, but differed *in toto* from Dr. Nixon. He thought the climate of Ireland fulfilled all the desiderata for the treatment of consumption which were asked for by Dr. Nixon, with the single exception of humidity, more so than any other place. Its temperature is most equable, and there is abundance of fresh air. The only drawback is the dampness, both of the air and of the soil. He thought that patients belonging to Dr. Nixon's second class should not be admitted to a special hospital whose object was to give those who had a fair prospect of cure a chance. These patients could be received into the Royal Hospital for Incurables or into the Hospice for the Dying. In the proposed new hospital each patient would have a separate sleeping apartment He did not think Dublin was over-hospitaled, as it received patients from all Ireland. The proposed site of the new hospital is three miles inland from Newcastle, Co. Wicklow. He thought the arrangements in our city dispensaries, in the extern departments of our hospitals, and in the wards themselves were 50 years behind the time.

Mr. Broomfield remarked that whatever Dr. Moore's views were as to the climate of Ireland being suitable for the treatment of consumption, it was very suitable for its development. He thought that the new hospital should be for the incurable cases, as they would thus be isolated and infection limited.

Dr. Ninian Falkiner thought that cases of phthisis should be removed from crowded tenement rooms; and if this were done the death-rate from consumption would be lower.

Dr. Bewley thought the new hospital would be insufficient to relieve the other hospitals. Phthisis lasted a good while, and patients did not like being taken away from their homes for a year.

The Chairman (**Dr. Hawtrey Benson**) agreed with Dr. Moore as regards the climate of Ireland.

Mr. Denham, in replying, said that when he commenced to investigate the subject of the new hospital he was strongly prejudiced against it, but that as he proceeded in the study of the subject he became a firm believer in it. He thought ordinary hospitals were defective for treating consumption in the following points:—First, the temperature was not constant; secondly, the cubic space allotted to each patient was insufficient; and thirdly, the diet was unsuitable. He thought the patients suitable for admission to the new hospital would be those in whom the physical signs were not marked. He again repeated the decision of the 10th International Medical Congress held at Berlin, which was strongly in favour of treating pulmonary consumption in special hospitals.

Some Recent Clinical Experiences.

Under this heading, **Dr. J. W. Moore** detailed notes of a series of five cases, selected from those which had come under his observation during a recent period of clinical duty at the Meath Hospital, lasting from

October 1 to December 31, 1892. While they are, no doubt, types of the every-day clinical experiences of a hospital physician, the cases throw more or less light upon obscure features in diagnosis and pathology, and illustrate some practical points in treatment. Hence their selection. They are as follow:—

1. Axillary Abscess in an Infant, simulating Scarlatina.
2. Septic Peritonitis from rupture of a small Ovarian Abscess.
3. Retro-pharyngeal Abscess in a man aged 45 years.
4. A case illustrating the short Incubation and Invasion of Scarlatina.
5. Thoracic Aneurysm perforating the Pericardium.

[This paper will be found in full at page 216.]

The Section then adjourned.

SECTION OF STATE MEDICINE.

President—E. MacDowel Cosgrave, M.D.

Sectional Secretary—Ninian Falkiner, M.B.

Friday, February 10, 1893.

The President in the Chair.

Public Cleansing and its Influence on the Mortality of Towns.

Mr. Edgar Flinn read a paper on "Public Cleansing and its Influence on the Mortality of Towns." [It will be found at page 207.]

Dr. Falkiner said that he rarely saw a nuisance existing in a lane or alley. In this respect the scavengers do their work admirably. How to deal with the houses, which are beyond the reach of the scavengers, is a very difficult problem. Certainly five-sixths of the tenement houses in his district are unsuitable for human habitation.

Mr. Denham said that the principal point now to be considered with regard to the removal of the filth of Dublin was its ultimate disposal. He believed that destructors in a central place was a better system than that at present adopted, which entailed the lodgment of the matter on the boat beside the quay wall for several hours.

Dr. J. W. Moore said he thought that Mr. Flinn laid undue stress on the removal of refuse as a means of abating the zymotic death-rate, since diseases such as enteric fever, scarlatina, or erysipelas had not decreased. Typhus fever and some of the eruptive fevers in children had diminished. The really great reform in sanitary matters in recent years in Dublin is the improvement in the tenement houses of the poor. The last Census Commission has shown this. There has been a great diminution in 4th-class houses and a great increase in the number of 1st and 2nd-class houses. With regard to the removal of refuse, he pointed out that the night-soil was not removed, but was sent down water-closets connected with imperfect drains, which allow matter to trickle into the subsoil. On account of this, typhoid fever has been increasing. Ashpits would be better than these imperfect drains.

Dr. Byrne thought that the removal of filth was greatly superior to placing it in ashpits for some time.

The **President** said that it was very unfortunate that, when closets were substituted for privies, the drains were not made perfect. He had seen the pail system in another town, and he would be very sorry to see it introduced here. Another objection to it would be the large number of different families living in the same house.

Mr. Flinn stated that when he was writing the paper he had the country towns principally in his mind. He thought that the statement of the Medical Officers of Health for Dublin, Belfast, and Kingstown—that they believed the cases of zymotic diseases had decreased in number owing to the cleansing of town—was very convincing. He had great belief in the pail system; he had seen it employed for two years with great success in Walsingham. The pails were emptied and hosed between 4.30 and 5.30 a.m. every morning. He thought that the pails ought to be provided free of charge to the poorer class of people.

Note on a Question of Public Health.

Dr. Falkiner gave an account of a case of enteric fever which he had been called to see on the 43rd day. Not being sure of the diagnosis (the patient, a woman, having miscarried about the time of the attack), he did not remove her to a fever hospital. In the following fortnight two other cases occurred in the same story of the house—*i.e.*, the basement. All were then removed to hospital.

On making a sanitary examination of the house, the drain which passed under the area or cellar floor of the house was found to be defective, and no intercepting trap was found.

Dr. Falkiner said that this experience confirmed him, first, in believing that nursing enteric fever in a tenement house is an unjustifiable act; and, secondly, that sewer gas, whether it contains Eberth's bacillus or not, is a constant source of enteric fever. On two other occasions, when fever cases had occurred in the same house periodically, he had found the sewers untrapped, and on proper intercepting traps being put in the fever had ceased.

Dr. Falkiner expressed his approbation of the manner in which the case had been attended by one of the Queen's Jubilee nurses from St. Patrick's Home—the chart which was exhibited having been made by her.

The **President** wished to ask Dr. Falkiner did he think cases such as he had recorded should be sent to general hospitals, and not to special hospitals.

Dr. T. Donnelly thought that infectious diseases could not be properly treated in tenement houses. He could recall two cases of typhoid fever in which the patients died through improper food having been given to them. These cases he thought were better treated, and gave less trouble in a special hospital. He thought that many cases were put down as typhoid fever which were in reality due to poisoning by sewer gas. He had two cases in adjoining houses in which he could not get the typical signs of typhoid, and at last he began to suspect the drains. He examined them and found the waste-pipe of the scullery communicating without a trap with the drain. He had this remedied, the patients immediately improved, and were well in a week. He considered that the fee paid for notification of infectious cases was shamefully small, and had the effect of inducing some practitioners not to report, but to hold on to infectious cases in the hope of obtaining a large fee He had met cases in which the practitioner told the parents the case was measles when it was really scarlatina, with this object in view.

Mr. Cox said he was very glad to treat any cases that came to hospital. He had several typhoid cases lately, and found them a most satisfactory class of patients; and he thought they could be treated satisfactorily in general wards, although he would be very glad to see a special hospital for infective diseases on the north and south sides of the city.

Dr. Falkiner's cases were doing well in the hospital at present. He thought it simply a monstrous thing that men should act in the way Dr. Donnelly had described. Perfect harmony he considered should exist between the officers of the various districts and of the hospitals. People could not be properly treated in their wretched rooms. He thought the Jubilee Nurses were doing a very noble work in Dublin, and that their devotion was only equal to their excellent training.

Mr. Doyle thought that it was often impossible to diagnosticate a case as typhoid fever in one visit. He thought that the 5s. fee of the apothecary in by-gone days was often the maximum fee of the general practitioner of the present time.

Dr. Parsons thought it absolutely necessary to remove typhoid patients to hospital. He thought it quite sufficient to send them to general hospitals, provided there were special wards for the treatment of fever cases. The convenience of the students should also be taken into account. He thought the discovery by Dr. Eberth of a bacillus present in typhoid fever only, and in every case of typhoid fever, and in every place where anatomical lesions were present, showed the bacillary nature of the disease. The fact that the disease could not be caused in animals by the introduction of the bacillus was not very surprising.

Dr. J. W. Moore said that very many cases of typhoid fever occurred which were not notified. This could be seen by comparing the Registrar General's return of the number of cases which entered hospital with the notifications. He thought it would be impossible to get a high fee for notifying infectious cases, as the sum to be made up in a year would be very large. He believed that the typhoid bacillus might enter the body by the air which was breathed.

Dr. Falkiner, in reply, said that the two additional cases occurring after the first were probably predisposed to typhoid by the unsanitary condition of the drains, and that they probably would not have occurred if the drains had been set right.

The Section then adjourned.

ARMY MEDICAL STAFF.

The Director-General of the Army Medical Department has placed in our hands the following official list of successful candidates for commissions in the Medical Staff of her Majesty's Army at the examination held in London in February, 1893:—

Order of Merit	Names	Marks	Order of Merit	Names	Marks
1	Spencer, C. G.	2,565	8	Killery, St. J. B.	2,245
2	Fowler, C. E. P.	2,560	9	Barter, W. P.	2,230
3	Goodwin, T. H. J. C.	2,550	10	Lattey, A.	2,215
4	Porter, H. E. B.	2,400	11	French, H. C.	2,180
5	Collins, D. J.	2,390	12	M'Munn, J. R.	2,180
6	Smith, W. W.	2,385	13	Anderson, J. B.	2,075
7	Keble, A. E. C.	2,290	14	Williams, E. M.	1,990

CONJOINT EXAMINATIONS IN IRELAND, CONDUCTED BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.

The following candidates passed the examination for the Conjoint Diploma in State Medicine held in February, 1893:—E. H. Lemon, M.R.C.S. Eng., L.R.C.P. Lond.; W. M. Hamilton, M.D., R.U.I.; Surg.-Capt. W. H. B. Robinson, L.R.C.P. & S.I.; Chas. H. Wheeler, M.D., Q.U.I.

BRITISH MEDICAL SERVICE.

The following is the official list of surgeons on probation of the Medical Staff of the British Army who have been successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—February 1st, 1893.—[*] 1. Mangan, F. M., 5,279; 2. Pollock, C. E., 5,265; 3. Taylor, W. J., 4,672; 4. Longhurst, B. W., 4,407; 5. Rivers, J. H., 4,406; 6. Berryman, H. A., 4,202; 7. Buswell, F. R., 4,161; 8. Symons, F. A., 4091; 9. Farmer, J. H., 4,041; 10. Samman, C. T., 4,012.

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[*] Gained the Herbert Prize of £20, with the Martin Memorial Gold Medal, the Parkes Memorial Bronze Medal, the Montefiore Second Prize, and a Prize in Pathology, presented by Professor A. E. Wright, M.D.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, January 28, 1893.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Jan. 7.	Jan. 14.	Jan. 21.	Jan. 28.		Jan. 7.	Jan. 14.	Jan. 21.	Jan. 28.
Armagh -	14·0	49·1	21·0	49·1	Limerick -	14·0	22·5	22·5	19·6
Belfast -	32·8	29·1	30·1	26·7	Lisburn -	17·0	51·1	38·3	4·3
Cork -	30·5	35·3	31·8	27·0	Londonderry	17·3	31·4	17·3	26·7
Drogheda	26·4	8·8	17·6	39·5	Lurgan -	31·9	18·2	27·4	22·8
Dublin -	30·3	33·6	29·7	28·5	Newry -	20·1	40·2	40·2	60·3
Dundalk -	33·5	71·2	29·3	37·7	Sligo -	35·5	15·2	5·1	15·2
Galway -	37·8	11·3	18·9	45·3	Waterford -	15·0	32·5	17·5	17·5
Kilkenny	4·7	51·9	37·8	42·5	Wexford -	4·5	31·6	13·5	22·6

In the week ending Saturday, January 7, 1893, the mortality in thirty-three large English towns, including London (in which the rate was 30·4), was equal to an average annual death-rate of 29·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 27·1 per 1,000. In Glasgow the rate was 27·7, and in Edinburgh it was 30·1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 28·6 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in ten of the districts to 8·4 in Dundalk—the 8 deaths from all causes registered in that district comprising 2 from whooping-cough

Among the 167 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 1 from whooping-cough, 4 from enteric fever, and 1 from diarrhœa. The 44 deaths in Cork comprise 1 from whooping-cough, 1 from diphtheria, and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 152—86 boys and 66 girls; and the registered deaths to 210—105 males and 105 females.

The deaths represent an annual rate of mortality of 31·3 in every 1,000 of the population, being equal to the average rate for the first week of the last ten years. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 30·3 per 1,000.

The number of deaths from zymotic diseases registered was 22, being equal to the average for the first week of the last ten years, but 2 under the number for the week ended December 31, 1892. The 22 deaths comprise 3 from measles, 2 from whooping-cough, 11 from enteric fever, 1 from diarrhœa, and 1 from erysipelas.

Only 14 cases of enteric fever were admitted to hospital against 31 admissions in the preceding week: 10 enteric fever patients were discharged, 3 died, and 162 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

The hospital admissions for the week include also 7 cases of scarlatina and 1 of measles, but no cases of typhus were received. Twenty cases of scarlatina, 4 of measles, and 2 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 32 for the week ended December 24, 1892, to 65 for the following week, fell to 58, or 2 under the average for the corresponding week of the ten last years. The 58 deaths comprise 40 from bronchitis, 10 from pneumonia or inflammation of the lungs, and 3 from croup.

In the week ending Saturday, January 14, the mortality in thirty-three large English towns, including London (in which the rate was 30·3), was equal to an average annual death-rate of 28·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 28·5 per 1,000. In Glasgow the rate was 29·9, and in Edinburgh it was 30·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 31·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·0 per 1,000, the rates varying from 0·0 in eight of the districts to 14·2 in Kilkenny—the 11 deaths from all causes registered in that district comprising 1 from typhus and 2 from diarrhœa. Among the 148 deaths from all causes registered in Belfast are 1 from whooping-cough, 2 from simple continued fever, and 5 from diarrhœa. The 51 deaths in Cork comprise 2 from whooping-cough. Of the 13 deaths in Waterford, 1 resulted from whooping-cough and 1 from diphtheria. The 10 deaths in Newry comprise 1 from whooping-cough and 1 from enteric fever. The 17 deaths in Dundalk comprise 2 from whooping-cough and 1 from enteric fever.

In the Dublin Registration District the registered births amounted to 211—102 boys and 109 girls; and the registered deaths to 232—113 males and 119 females.

The deaths, which are 3 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 34·6 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 33·6 per 1,000. During the first two weeks of the current year the death-rate averaged 33·0, and was 1·1 under the mean rate in the corresponding period of the ten years, 1883–1892.

The number of deaths from zymotic diseases registered was 21, being 7 below the average for the second week of the last ten years, and 1 under the number for the week ended January 7. The 21 deaths comprise 1 from measles, 1 from influenza, 3 from whooping-cough, 3 from diphtheria, 7 from enteric fever, 1 from dysentery, and 1 from erysipelas.

Sixteen cases of enteric fever were admitted to hospital, being 2 in excess of the admissions for the preceding week, but 15 under the number for the week ended December 31, 1892. Twenty-two enteric fever patients were discharged, 4 died, and 151 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 1 case of measles, 4 cases of scarlatina, and 2 of typhus: 2 cases of measles, 20 of scarlatina, and 4 of typhus remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered during the week was 53, being 14 below the average for the corresponding week of the last ten years, and 5 under the number for the week ended January 7. The 53 deaths comprise 33 from bronchitis, 8 from pneumonia or inflammation of the lungs, and 2 from pleurisy.

In the week ending Saturday, January 21, the mortality in thirty-three large English towns, including London (in which the rate was 25·4), was equal to an average annual death-rate of 24·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 27·7 per 1,000. In Glasgow the rate was 29·0, and in Edinburgh it was 28·0.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 28·4 per 1,000 of the population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in eight of the districts to 7·0 in Armagh—the 3 deaths from all causes registered in that district comprising from 1 diarrhœa. Among the 153 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 2 from whooping-cough, and 2 from enteric fever. The 16 deaths in Limerick comprise 1 from simple continued fever and 1 from diarrhœa. The 7 deaths in Waterford comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 191—93 boys and 98 girls; and the registered deaths to 203—109 males and 94 females.

The deaths, which are 33 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 30·3 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 29·7 per 1,000. During the first three weeks of the current year the death-rate averaged 32·1, and was 2·4 under the mean rate in the corresponding period of the ten years 1883-1892.

Twenty-seven deaths from zymotic diseases were registered, being equal to the average for the corresponding week of the last ten years, and 6 over the number for the week ended January 14. They comprise 4 from whooping-cough, 1 from ill-defined fever, 10 from enteric fever, 1 from diarrhœa, and 4 from erysipelas.

Twenty-one cases of enteric fever were admitted to hospital, being 5 in excess of the admissions for the preceding week: 23 enteric fever patients were discharged, 1 died, and 148 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 7 cases of scarlatina and 2 of typhus: 24 cases of the former and 5 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered is 55, being 2 over the number for the preceding week, but 14 under the average for the third week of the last ten years. The 55 deaths comprise 38 from bronchitis, 10 from pneumonia or inflammation of the lungs, and 2 from croup.

In the week ending Saturday, January 28, the mortality in thirty-three large English towns, including London (in which the rate was 22·2), was equal to an average annual death-rate of 22·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·4 per 1,000. In Glasgow the rate was 26·1, and in Edinburgh it was 19·0.

The average annual death-rate in the sixteen principal town districts of Ireland was 27·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in nine of the districts to 5·0 in Waterford—the 7 deaths from all causes registered in that district comprising 1 from whooping-cough and 1 from enteric fever. Among the 136 deaths from all causes registered in Belfast are 2 from scarlatina, 1 from typhus, 1 from whooping-cough, 2 from diphtheria, 6 from enteric fever, and 2 from diarrhœa. The 17 deaths in Londonderry comprise 1 from whooping-cough and 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 214—114 boys and 100 girls; and the registered deaths to 198—94 males and 104 females.

The deaths, which are 30 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·5 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 28·5 per 1,000. During the first four weeks of the current year the death-rate averaged 31·4, and was 3·0 under the mean rate in the corresponding period of the ten years, 1883–1892.

The number of deaths from zymotic diseases registered is 18, being 6 under the average for the corresponding week of the last ten years, and 9 under the number for the week ended January 21. The 18 deaths comprise 1 from measles, 1 from typhus, 1 from influenza, 3 from diphtheria, 5 from enteric fever, 1 from diarrhœa, and 3 from erysipelas.

The number of cases of enteric fever admitted to hospital is 14, being 7 under the admissions for the preceding week, and 2 under the number for the week ended January 14. Twenty-one enteric fever patients were discharged, 1 died, and 140 remained under treatment on Saturday, being 8 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 7 cases of scarlatina, and 2 of typhus: 25 cases of the former and 4 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered is 48, being 7 under the number for the preceding week, and 16 under the average for the fourth week of the last ten years. The 48 deaths comprise 31 from bronchitis, 14 from pneumonia or inflammation of the lungs, and 1 from pleurisy.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N. Long.* 6° 15′ *W., for the Month of January,* 1893.

Mean Height of Barometer,	30·053 inches.
Maximal Height of Barometer (on 21st, at 7 30 a.m.),	30·559 ,,
Minimal Height of Barometer (on 28th, at 9 p.m.),	29·178 ,,
Mean Dry-bulb Temperature,	40·1°.
Mean Wet-bulb Temperature,	38·4°.
Mean Dew-point Temperature,	35·7°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·214 inch.
Mean Humidity,	84·7 per cent.
Highest Temperature in Shade (on 30th),	54·9°.
Lowest Temperature in Shade (on 3rd),	20·2°.
Lowest Temperature on Grass (Radiation) (on 3rd),	14·4°.
Mean Amount of Cloud,	70·2 per cent.
Rainfall (on 19 days),	2·239 inches.
Greatest Daily Rainfall (on 31st),	·513 inch.
General Directions of Wind,	W., N.W.

Remarks.

The promise of a cold month offered by very severe weather during the first ten days or a fortnight was not fulfilled. So decided was the recovery of temperature after the 15th, that the mean temperature of the whole month scarcely fell below the average. The mean temperature of the 1st–14th, inclusive, was 36·0°; that of the 15th–28th, inclusive, was 44·3°. Ireland escaped to a remarkable extent the Siberian cold, which prevailed on the Continent of Europe and to a less degree in Great Britain throughout a large portion of the month. In Dublin the cloudiness of the sky was one of the chief features of the weather, Another interesting point was the singular mildness, which the northerly and north-westerly winds of an Atlantic anticyclone brought to Ireland in the period between the 15th and the 25th.

In Dublin the arithmetical mean temperature (40·8°) was slightly below the average (41·4°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 40·1°. In the twenty-eight years ending with 1892, January was coldest in 1881 (M. T. = 32·2°), and warmest in 1875 (M. T. = 46·6°). In 1867 the M. T. was 35·7°, and in 1865 it was 37·8°. In 1871 and in 1886 the M. T. was 37·9°; in 1879 (the "cold year") it was 35·3°. In 1888 the M.T. was 42·1°; in 1889, 42·4°; in 1890, 44·5°; in 1891. 40·1°; and in 1892, 38·8°. As a general rule, January in Dublin is not colder, but a shade warmer, than December. This is owing to the full development in January of a winter area of low pressure over the Atlantic, to the northwestward of the British Isles, and to a resulting prevalence of S.W. winds in their vicinity. January, 1892, proved an exception to this rule, the M.T. being 4·2° below that of December, 1891 (43·0°). But January, 1893, conformed to the rule, the M. T. being above that of December, 1892.

The mean height of the barometer was 30·053 inches, or 0·179 inch above the corrected average value for January—namely, 29·874 inches. The mercury rose to 30·559 inches at 7 30 a.m. of the 21st, and fell to 29·178 inches at 9 p.m. of the 28th. The observed range of atmospherical pressure was, therefore, as much as 1·381 inches—that is, a little less than one inch and four-tenths.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 40·1°, or 1·2° above the value for December, 1892. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·52), the M. T. becomes 41·0°, compared with a twenty-five years, average of 41·5°. The arithmetical mean of the maximal and minimal readings was 40·8°, compared with a twenty-five years' average of 41·4°. On the 30th the thermometer in the screen rose to 54·9°—wind, W.S.W.; on the 3rd the temperature fell to 20·2°—wind, W.N.W. The minimum on the grass was 14·4°, also on the 3rd.

The rainfall was 2·239 inches, distributed over 19 days. The average rainfall for January in the twenty-five years, 1865–89, inclusive, was 2·200 inches, and the average number of rainy days was 17·3. The rainfall, therefore, was very slightly above the average, while the number of rainy days was more decidedly above it. In 1877 the rainfall in January was very large—4·322 inches on 25 days; in 1869, also, 4·258 inches fell—on, however, only 18 days. On the other hand, in 1876, only ·406 of an inch was measured on but 9 days; and in 1880 the rainfall was only ·568 of an inch on but 8 days. In January, 1886, only 3·244 inches of rain were measured on as many as 26 days; in 1887 (the "dry year"), 1·816 inches fell on 16 days; in 1888, 1·247 inches on 9 days; in 1889, 2·213 inches on 16 days; in 1890, 2·975 inches on 21 days; in 1891, only ·672 of an inch on 14 days; and in 1892 1·698 inches on 20 days.

Solar halos were seen on the 15th and 25th. A lunar halo was seen on the 28th. The atmosphere was foggy on the 2nd, 4th, 12th, and 29th. High winds were noted on not less than 18 days, reaching the force of a gale, however, on only 4 days—the 7th, 8th, 16th, and 28th. Hail fell on the 3rd, 7th, 14th, and 31st, and snow or sleet on the 1st, 2nd, 7th, and 14th. Temperature exceeded 50° in the screen on 7 days, compared with 6 days in 1892, only 5 days in 1891, 17 days in 1890, and 8 days in 1889; while it fell to or below 32° in the screen on only 4 nights, compared with 15 nights in 1892, 7 nights in 1891, 1 night in 1890, and 3 nights in 1889. The minima on the grass were 32°, or less, on 16 nights, compared with 25 nights in 1892, 21 nights in 1891, 15 nights in 1890, and 16 nights in 1889.

The first week of 1893 will long be remembered for the intensity of the cold which prevailed in both Northern Hemispheres, and for the remarkable height reached by the barometer in Northern and Eastern Europe—31·25 inches at Archangel on Tuesday, the 3rd, 31·12 inches at Haparanda, on the Gulf of Bothnia, on Wednesday, and 31·27 inches at Moscow on Thursday. At 8 a.m. of Sunday, the 1st, the thermometer stood at *minus* 37° Fahr. at Haparanda, or 69° below freezing point. During the ensuing night the minimal reading at this station was —40°, or 72° of frost. At the beginning of the month a vast anticyclone stretched from the extreme North of Europe to the westward of the British Islands. Strong S.E. winds blew in Ireland, and on Monday morning a fall of snow occurred in Dublin. This was followed by severe frost, the thermometer falling to 20·2° in the screen, and to 14·4° on the ground during Monday night, even in the heart of the city. On Wednesday, the 4th, a decided change of weather set in over Ireland, where the sky became densely overcast, with freshening S.E. winds and rising temperature. In Great Britain at this time the frost only "stiffened," and fog prevailed. By the end of the week, however, strong S.E. or E. winds, with falls of cold rain and sleet or snow had become general, and the weather was most inclement in all parts. In Dublin the mean height of the barometer was 30·110 inches, pressure ranging from 30·369 inches, at 9 a.m. of Wednesday (wind, calm), to 29·763 inches at 9 p.m. of Saturday (wind, E., blowing a moderate gale). The corrected mean temperature was 33·2°. The mean dry bulb readings at 9 a.m and 9 p.m. were 32·5°. The screened thermometers rose to 38·9° on Friday, having fallen to 20·2° on Tuesday. The rainfall amounted to ·624 inch on five days, ·372 inch being registered on Saturday. The precipitation consisted largely of snow or sleet and hail. The prevalent wind was S.E. A noteworthy feature was the relatively high temperature which accompanied this wind in the southwestern parts of England and Ireland, and in Brittany.

Although the cold in Ireland and in Great Britain also was much less intense during the week ended Saturday, the 14th, than in the two previous weeks, the record is again one of winterly weather. At the beginning of the period a large area of low atmospherical pressure was found over the Atlantic southwestward of the British Isles. Strong E. and S.E. winds or gales were blowing in Ireland, where also cold rain or sleet fell heavily. During the next two days the depression made its way across the Bay of Biscay and France to Germany, bringing with it to those countries higher temperatures and a thaw. Meanwhile an area of high pressure formed in the far North, causing easterly to northerly winds, and cloudy, cold weather generally. This system subsequently retreated in a south-westerly direction, and disappeared off the S.W. of

Ireland on Friday, when a series of depressions was preparing to travel southwards across the British Isles and North Sea. In front of these disturbances a transitory rise of temperature took place on Friday, and rain fell at night. On Saturday, however, rain gave place to frequent showers of sleet, snow, and hail, as the wind veered to N. and N.E. in the rear of the depressions, which continued their southerly course. In Dublin the mean height of the barometer was 30·090 inches, pressure ranging from 29·616 inches, at 2 p.m. of Sunday (wind, E.), to 30·440 inches, at 9 a.m. of Wednesday (wind, E.N.E.). From this high reading it receded to 29·764 inches, at 9 a.m. of Saturday (wind, W.N.W.). The corrected mean temperature was 38·8°. The mean dry bulb readings at 9 a m. and 9 p.m. were 38·3°. On Friday the screened thermometers rose to 44·4°; on Saturday they fell to 33·0°. The rainfall was ·368 inch on four days, ·228 inch being measured on Sunday. The prevailing winds were—first easterly, then north-westerly.

The most marked characteristic feature in the weather of the week ended Saturday, the 21st, was a decided advance in temperature all over the British Islands, but especially in Ireland, Scotland, and the West of England (including Wales). In France and Germany, on the contrary, the cold "stiffened" daily until Friday, when warmer weather spread in from the Atlantic over the Continent also. A very interesting circumstance is that the milder weather came with N.W. and N. winds, which formed part of the circulation round an anticyclone found generally over the Atlantic to the westward or south-westward of Ireland. On Tuesday morning also a *southerly* wind carried cold weather from the frozen Continent to the S.E. of England, where the thermometer remained all day below the freezing point. Not for many years has such extreme cold been felt in Germany and France as during the greater part of this week—at Munich the minima have been − 11°, −15°, −14°, −8°, −8°, +1°, and +19°; at Lyons the corresponding values have been + 11°, −3°, −1° (?), 0°, + 3°, + 4° (?), and + 17°. During all this time temperatures as high as from 48° to 52° were being recorded on the Atlantic coasts of both the United Kingdom and France. In the interval between Wednesday and Friday a vast depression crossed the extreme northern parts of Scandinavia, bringing with it a thaw even to those high latitudes at a time when intense frost held as far south as Lyons and Munich. On Saturday cold weather was re-established in Scotland and Scandinavia. In Dublin the mean height of the barometer was 30·286 inches, pressure ranging from 29·816 inches at 2 p.m. of Monday (wind, N.W.) to 30·559 inches at 7 30 a.m. of Saturday (wind, W.N.W.) The corrected mean temperature was 42·9°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 42·4°. On Sunday the thermometers in the screen fell to 29·5°; on Thursday they rose to 50·8°. Rain was measured on four days to the amount of ·341 inch, of which ·277 inch fell on Sunday. The prevailing winds were W.N.W. and W.

A further advance in temperature occurred during the week ended Saturday, the 28th, which proved open, changeable, and breezy, with prevalent westerly to southerly winds. At first an anticyclone lay to the southward of Ireland—on the morning of Sunday, the 22nd, the barometer stood as high as 30·60 inches at Corunna, in the N.W. of Spain—while several shallow depressions were found over the North Sea, Germany, and the Baltic. The winds curved from S.W. in the west of Ireland, through W. in the east of this country to N.W in the S.E. of England, and to N. in parts of France. The weather was mild and damp, and light rain fell at many stations. On Wednesday morning a depression appeared off the south of Ireland, ultimately forming portion of a complex V-shaped depression, which caused southerly gales and in places heavy rains during the ensuing 24 hours. As this disturbance passed off to the northward a sharp but temporary dip in temperature took place. On Friday another and more serious depression advanced over Ireland from S.S.W., bringing with it southerly gales, a renewed rainfall, and generally broken weather, which lasted to the close of the week. In Dublin the mean height of the barometer was 29·914 inches, pressure ranging from 30·412 inches, at 9 a.m. of Sunday (wind, W.), to 29·178 inches, at 9 p.m. of Saturday (wind, S.). The corrected mean temperature was 45·7°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 44·4°. On Tuesday the screened thermometers rose to 53·0°; on Friday they fell to 37·4°. The rainfall was ·389 inch on five days, ·124 inch being measured on Friday, and ·240 inch on Saturday. The prevailing winds were W. and S. to S.S.E. A lunar halo was visible at 9 p.m. of Saturday.

Sunday, the 29th, was a fine mild day. The 30th was very mild, but changeable. On the 31st the heaviest rainfall of the month occurred at night, and hail fell in places in the afternoon.

In Dublin, the rainfall up to January 31, 1893, amounted to 2·239 inches on 19 days, compared with a twenty-five years' (1869–1889) average of 2·200 inches on 17·3 days.

At Knockdolian, Greystones, Co. Wicklow, 3·380 inches of rain fell on 18 days. The heaviest falls in 24 hours were ·510 inch on the 7th, and ·575 inch on the 28th.

The rainfall in January at Cloneevin, Killiney, Co. Dublin, amounted to 2·93 inches, on 19 days. The average rainfall for January at this station is 1·75 inches, on 15·5 days. Both rainfall and rainy days were, therefore, considerably in excess this year. The greatest rainfall in 24 hours was ·52 of an inch on the 28th.

PERISCOPE.

THE INTERNATIONAL CONGRESS OF CHARITIES, CORRECTION AND PHILANTHROPY, JUNE 12–18, 1893.

One of the series of International Congresses to be held in Chicago in 1893 is to be devoted to the subjects of Charities, Correction and Philanthropy, and the Third Section of this is to consider all matters relating to the Hospital Care of the Sick, The Training of Nurses, Dispensary Work, and First Aid to the Injured. The Committee of Organisation of the Congress has appointed Dr. John S. Billings, Surgeon U. S. Army, as Chairman of this Section, and Dr. Henry M. Hurd, Superintendent of the Johns Hopkins Hospital in Baltimore, as its Secretary, and has authorised and requested them to complete its organisation, to extend invitations and to prepare a programme for its work. Miss Isabel A. Hampton, Superintendent of the Training School for Nurses of the Johns Hopkins Hospital, has been appointed Chairman of that part of the work of the Section which relates to the training of nurses. This Section will hold five sectional meetings of about two hours each, commencing June 12th, 1893, and will also have charge of one of the general sessions of the Congress, viz., that held on the morning of June 14th. It is desired that this shall be a truly international gathering for conference on the subjects allotted to this Section, and all who are interested in Hospitals, in Training of Nurses, in Dispensaries, or in First Aid to the Injured, are cordially invited to be present, to contribute papers and to take part in the discussions. The papers and proceedings will probably be printed as a separate volume, and it is hoped that this will represent the best methods and the best work in each of these departments in all parts of the world. The following are suggested as subjects for special consideration in papers to be prepared :— 1st. Hospital Organisation—Governing Bodies—Relations of the Medical Staff and of Nurses' Training Schools. 2nd. Hospital Finances—Means of Support—Mode of Keeping Accounts—Cost. 3rd. Plan and construction of recently built General Hospitals, embodying the latest improvements. 4th. Relations of Hospitals to increase of Knowledge; to Medical Education, and to the Medical Profession; Hospital Records, Statistics, and Reports. 5th. Pay Patients in Hospitals. 6th. Isolating Wards and Hospitals for Contagious Diseases. 7th. Hospital Diets, Dietaries, Kitchens, &c. 8th. Hospital Amphitheatres and Operating Rooms. 9th. Hospital Laundries and Disinfecting Establishments. 10th. Army and Navy Hospitals—Emergency Hospitals in Time of Epidemics—Temporary and Movable Hospitals. 11th. Small and Special Hospitals, Cottage Hospitals, School Hospitals, Private Hospitals, Sanatoriums, &c.; Convalescent Hospitals, and what to do with Incurables. 12th. History and present condition of Hospitals in the large cities. 13th. Training Schools for Nurses (*see special circular*). 14th. Dispensaries—Relations to the Public and to the Medical Profession ; Dispensary Records. 15th. First Aid to the Injured; Associations for best means of popular instruction in and its place in General Education. Persons desiring to present papers, or to share in the discussions of this Section, are requested to communicate with the Secretary at once. The period of time allotted for the preparation of the programme is necessarily brief, and it is essential that all who are willing to assist in this work should act promptly. All communications should be addressed to Dr. Henry M. Hurd, The Johns Hopkins Hospital, Baltimore, Md.

DOUBLE OVARIOTOMY.

M. Polaillon reports to the L'Académie de Médecine a case of successful double ovariotomy in a woman three months pregnant. The patient went her full time, and was delivered of a healthy, well-nourished child.—*Bulletin de l'Académie de Médecine*, No. 30.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Dermatol Dusting Powder.

"Dermatol"—the trade name for subgallate of bismuth—is an odourless, yellow, insoluble powder, which in appearance resembles iodoform, but unlike it, is without smell and is free from poisonous properties. It undoubtedly lessens secretion from weeping surfaces, and has been recommended as a powerful non-irritant antiseptic and extremely convenient drying agent or desiccant. Pure dermatol may be used to fulfil these objects in the treatment of fresh wounds, cuts, bruises, and burns. In cases of abraded skin, chafing of women and children, chaps, excoriations, blisters, sore feet, and so on, a dermatol dusting powder is a desideratum, and a sample of such a powder has been submitted to us by Messrs. Burroughs, Wellcome & Co., of Snow Hill Buildings, London, E.C. Following the suggestion of Dr. Heinz and Dr. Liebrecht, this dusting powder has been manufactured by a German firm, formerly known as Meister, Lucius, and Brüning, of Hoechst on the Maine. It contains 20 per cent. of dermatol, intimately mixed with pure and finely powdered talc and starch. It is an excellent toilet powder, possessed of antiseptic, mildly astringent, and soothing properties, which must make it a favourite in the dressingroom and nursery, not less than in the sick-room. [See page 250 above.]

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

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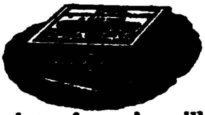

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THE DUBLIN JOURNAL
OF
MEDICAL SCIENCE.

APRIL 1, 1893.

PART I.
ORIGINAL COMMUNICATIONS.

◆

ART. XIII.—*Report of 112 Abdominal Sections performed in the Rotunda Hospital.*[a] By W. J. SMYLY, M.D., F.R.C.P.I.; Master of the Rotunda Lying-in Hospital.

I HAVE found the greatest difficulty in tabulating my cases. For example, in one case I removed an ovarian tumour and a myoma at one operation; the patient died of pulmonary embolism; this would raise the mortality in both groups. In another, I removed an ovarian tumour and an extra-uterine fœtation—this would appear as two recoveries. I have, therefore, given a list of the diseases for which abdominal section was performed, and have stated the number of cases detailing the complications and results subsequently.

Ovariotomy for—	
Fibroma	1
Myoma	1
Sarcoma	1
Carcinoma	1
Cystoma proliferum glandulare	27
Dermoids	11
Parovarian cyst	1

Removal of Appendages for—	
Salpingitis	6
Pyosalpinx	12
Tuberculosis	1
Cancer	1
Bleeding myomata	4
Myomectomy	3

---

[a] Read before the Section of Obstetrics of the Royal Academy of Medicine in Ireland, February 3, 1893.

Hysterectomy for—		Intestinal anastomosis	1
Myoma	18	Intestinal obstruction	1
„ and cancer	2	Suppurating hæmatoma	1
Cancer	1	Nephrectomy	2
Porro's operation	1	Prolapsus ani	1
Cæsarean section	3	Umbilical hernia	1
Extra-uterine fœtation	3	Lumbar abscess	1
Cyst of broad ligament	1	Exploratory	6
Peritonitis	4		

There were forty-three ovariotomies with seven deaths. The fatal cases were as follow:—

CANCER OF THE OVARY.

CASE I.—A young girl, aged nineteen. Her abdomen was distended with ascitic fluid, in which a solid and freely-movable tumour was detected. It was about as large as an adult head, and was connected with the right corner of the uterus by a long pedicle. The right side of the thorax was full of fluid, and was tapped on two occasions; but in order to relieve her respiratory troubles, it was necessary also to empty the abdomen. I, therefore, opened the latter cavity by a long incision, and drew out the tumour, ligatured, divided, and returned the pedicle. The tumour proved, on subsequent examination, to be a solid cancer, and the peritoneum was also extensively diseased. Having introduced the abdominal stitches, I was surprised, upon removing the sponge which I had introduced into the abdomen, to find it saturated with blood, and a quantity of the same fluid welling-up out of the pelvis. I at once drew up the pedicle, but found it secure. The only other possible source of hæmorrhage was a rent in the broad ligament, which, being extensively diseased, was unusually brittle. I tried in vain to remove the blood, either by sponging or hot-water flushing, with sufficient quickness to gain a view of the rent. I, therefore, transfixed the broad ligament as deeply as possible, and tied a ligature on each side of the base of the pedicle, but without effect. Finally, I tied the ligament close to the uterus, and thus controlled the hæmorrhage so that, by sponging, I could gain a view of a small crack on the posterior surface of the broad ligament, from which some blood was still oozing. This was checked by the application of perchloride of iron. The patient was by this time so collapsed that some of the bystanders thought that she was dead. The wound was, however, closed in the ordinary way, and the patient, whom I was afraid to remove from the operating table, was wrapped up in blankets, her legs elevated upon a chair, and restoratives actively employed. Four hours later she had so far recovered that she was removed to her bed. From that time she made an uninterrupted recovery, and was out of bed in a fortnight; but more than three weeks after the operation, and the day before she should have gone home, her mother brought her a present of some unripe apples, of which she ate six. That night she was attacked with violent colic, followed by complete obstruction of the bowels. Unfortunately, owing to morphia having been administered without my knowledge, the diagnosis was so far obscured that I did not feel justified in reopening the abdomen until the third day after complete obstruction had occurred. I then found a coil of small intestine twisted round a band which extended from the place where perchloride of iron had been applied to another coil of the gut. The band was removed, and the gut set free. On the two following days she had copious fæcal evacuations; but she gradually sank, and died on the third day.

Case II. was an easy ovariotomy, but was complicated by a myomectomy. She died of pulmonary embolism on the third day. I shall again refer to this case.

Case III. had a large proliferous cyst, and was in the eighth month of pregnancy. She had been tapped three weeks previously in another hospital, where induction of premature labour was suggested, but refused. On admission to the Rotunda she was in a most deplorable condition, having been unable to lie down for days, owing to the upward pressure of the enormously distended abdomen. I performed ovariotomy without delay, the patient being in a reclining posture. The tumour was, owing to recent peritonitis, everywhere adherent to the abdominal walls, omentum, uterus and intestines. These adhesions were easily separated by sponge pressure, but bled profusely; and, though the hæmorrhage rapidly ceased, yet, owing to the enormous surface involved, the total loss was by no means inconsiderable. The tumour itself contained a large quantity of semi-digested blood. The patient died the same night of collapse, and I believe her death was due to the previous tapping and delay. The same observations apply to the next case.

Case IV.—This patient was tapped before sending her up from the country, her medical attendant believing, and, I have no doubt, correctly, that, owing to the great size of the tumour, she could not travel safely unless it were diminished. Upon opening the abdomen, I found it full of thick colloid matter, which not only coated and adhered firmly to the peritoneal covering of all the abdominal viscera, but appeared to be undergoing a process of organisation—a condition described by Werth as *pseudomyxoma peritonei*. Being afraid to trust so much material either to absorption or removal by the drainage tube, I spent two hours in cleansing the abdomen both by sponging and flushing with hot water, but with only partial success. The patient died on the third day.

CASE V. made an excellent recovery for three weeks, when her temperature began to rise in the evening, sometimes reaching 101° Fahr., and a tumour was detected in the right side of the pelvis, which, from the character of the fever which accompanied it, evidently contained pus. I, therefore, opened the abdomen again, passed the needle of an aspirator through the tumour in two different directions; but, obtaining no pus, I closed the abdomen again. Next day the abscess burst into the rectum; the fever assumed a more markedly hectic character, with sweating and diarrhœa, and she finally died, two months after the first operation.

I was for some time inclined to think that the abscess was due to cellulitis, probably connected with the pedicle. But Dr. Alfred Smith suggested to me that it was more probably a hæmatoma which had suppurated; and, considering the long afebrile period succeeding the operation, I think this view is correct.

CASE VI.—The next case came into hospital with high fever, evidently connected with the condition of the tumour. The latter, which proved to be a dermoid, about as large as an adult head, was imbedded below in a mass of what at the time I took to be inflammatory exudation, but which subsequent microscopic examination proved to be cancer. In digging the tumour out of this mass I ruptured the cyst-wall, and the putrid contents were extravasated. The cancer bled so profusely that it was necessary to plug with iodoform gauze to check it. Her death was the only result that could have been expected.

CASE VII.—This was a dermoid, about the same size as the former one. The operation presented no difficulties; but when I was thrusting the trochar into the tumour the posterior wall gave way, and the contents were extravasated; and though, after removal of the tumour, I cleansed the peritoneum as thoroughly as I could by sponging, yet she died of septicæmia on the sixth day.

Before leaving the subject of ovariotomy, I shall briefly allude to some of the more complicated of the cases which recovered. In one I removed a small dermoid of the left ovary and enucleated a cyst, which, on subsequent examination by Dr. Earl, was reported to be an ovum, from between the layers of the right broad ligament.

In another case the pedicle was twisted four times upon its axis, and the tumour was universally adherent. Another had cancer of the peritoneum; and several coils of intestine were so intimately connected with the cyst wall that I was obliged to leave some portions of the latter behind, simply removing the mucous coat.

Another was an old woman, seventy-six years of age. The cyst had ruptured, and was generally adherent; but its walls were so macerated that it could only be removed piecemeal. The abdomen contained a greenish fluid, which was removed by flushing with hot water and sponging.

UTERINE APPENDAGES.

Of the six cases in which I removed the tubes and ovaries for salpingitis, with recurrent attacks of peritonitis, all recovered; in five, the operation was bilateral; in one, unilateral. In that case the right tube and ovary did not appear irrevocably damaged, and I therefore felt justified in leaving them behind, simply breaking down adhesions, so as to set them free. Two were complicated by retroversion of the uterus, with adhesion. Having broken down the adhesions, I stitched the fundus to the abdominal wall in front. In both the uterus was retained in this position. One of these patients became a wardmaid in the hospital, and was one of the best workers in the house.

There were twelve cases in which the appendages were removed for pyosalpinx. These were some of the most difficult operations that I performed—the adhesions being generally dense and unyielding, and the tube-walls and intestines in their neighbourhood so soft and friable, that rupture with extravasation frequently occurred. This was the cause of death in the four fatal cases; and of those which recovered two had fæcal fistulæ, one of which healed spontaneously; but in the other there is still some discharge from a small hole at the lower end of the abdominal wound. In one case I found it impossible to remove the second tube, and she has not benefited much by the operation.

In four cases I removed the appendages for bleeding myoma. All recovered; but in one the bleeding continued as before.

I operated upon one case of cancer of the tube, supposing it to be an inflammatory condition. The operation was exceedingly difficult, and the rectum was opened in two places. These I closed by suture; but the patient died of collapse. The true nature of the case was revealed by the microscope.

MYOMATA.

There were three myomectomies, in which the tumour only was removed, and twenty hysterectomies, in which the uterus was also taken away. In fifteen of these I performed a supra-vaginal amputation of the uterus with extra-peritoneal fixation of the stump, and in five I extirpated the entire uterus. I have not tried the intra-peritoneal method of treating the pedicle.

Of the three myomectomies, two were for pedunculated tumours. In one the pedicle was long and thin, and was transfixed and tied as in ovariotomy. The patient, who was six months pregnant, made a good recovery, and the course of pregnancy was not interrupted. In the second, the pedicle was short and thick. An elastic ligature was placed around the uterus; and a wedge-shaped piece having been cut out of the pedicle, the cavity thus formed was closed by suture, and covered with peritoneum; an ovarian tumour was removed at the same time. This patient, who has already been mentioned as a fatal case of ovariotomy, died of pulmonary embolism.

The third was a sessile tumour embedded in the wall of the uterus by about one-third of its bulk, and was about the size of an adult fist, partly calcified, and very heavy for its size. There was total prolapse of the uterus, which could not be relieved by any kind of pessary. I enucleated the tumour, which was situated near the fundus, on the anterior aspect of the uterus, and stitched the cavity left from the bottom. I also removed the ovaries, which were cystic, and fixed the uterus to the abdominal wall in front. The patient made a good, but somewhat protracted, recovery.

Of the fifteen cases in which I removed the uterus, and treated the stump extra-peritoneally, three died. In one the tumour was of enormous size, extending from near the ensiform cartilage to within an inch of the tuberosities of the ischia. The operation was tedious, and was extremely difficult, especially the enucleation of the pelvic portion, which was not covered by peritoneum; and I was unable to apply the elastic ligature to the cervix until it was practically completed. The patient died of sapræmia on the sixth day. On *post-mortem* examination the peritoneal cavity was found to contain about two pints of putrid fluid. I now believe that drainage per vaginam would have saved her life. The second case had been so reduced by previous hæmorrhage, that she came for operation in a very ex-sanguine condition, and never rallied from the shock. In the third the tumour had suppurated, and the patient had high fever before the operation. The lower portion of the tumour was firmly wedged into the pelvis, and was extra-peritoneal. Whilst enucleating this portion from the cellular tissue, I unfortunately ruptured the wall of the abcess, and upwards of a pint of pus escaped, causing fatal peritonitis. Of the cases which recovered, one was a sloughing myoma, about as large as a six months' pregnancy, and the case was further complicated by a large sloughing polypus which filled the vagina and caused violent bearing-down efforts. This patient had previously had a large sloughing polypus removed by another operator, after which she had septic fever and diphtheria, followed by paralysis of the soft palate. On admission to the Rotunda she was in a very anæmic condition with hectic fever, her evening temperature reaching 104° F. I removed the polypus per vaginam, and two days later the uterus by abdominal section. My chief difficulty was the enucleation of the ovaries, which were as large as billiard-balls, and deeply embedded in inflammatory exudation; their pedicles were crossed behind the uterus so that the left ovary was on the right side, and the right one on the left side; their capsules were calcified and the interior filled with pus. Having drawn the uterus out of the abdominal cavity and applied the serre-nœud, I stitched the peritoneum around the stump, and closed the abdominal wound. Having carefully protected it with sponges, I finally removed the uterus, thoroughly cauterised the stump with the actual cautery, and dressed it with tannic and salicylic acid powder. She made an excellent recovery, but has since developed a ventral hernia.

In one case the tumour, which was about the size of a fœtal head, had developed behind the uterus, and, excepting its upper surface, was entirely extra-peritoneal. Having divided the peritoneum over it by a crucial incision, I enucleated the tumour and drained the cavity left per vaginam, closing the peritoneum over it by catgut suture. In another case I intended to perform total extirpation, but found the rectum so firmly adherent to the cervix that I was obliged to abandon this method and fix the stump outside. The serre-nœud was applied about an inch above the place where the gut was attached, but the stump sloughed to a greater depth than I expected, and a fæcal fistula formed, which I was able to close by a subsequent operation.

In five cases I performed total extirpation of the uterus, freeing the cervix per vaginam, and subsequently removing the entire organ by abdominal section. One of these patients died. In two cases I adopted this method because of malignant disease of the mucous membrane—in one, malignant adenoma; in the other, carcinoma. Both these women are now alive and well—one, two years after the operation; the other, several months. In two other cases I adopted this method in order to save the patients the pain caused by the strangulation of the stump, and the tedious convalescence inseparable from the extra-peritoneal fixation of the stump. In one of them the uterus was not much larger than a fœtal head, but was infested by a number of myomata. I removed the appendages, but the hæmorrhages continuing, I dilated the uterus, and removed a small polypus; no improvement resulting, and the patient being reduced to a very anæmic condition, six months later I removed the entire uterus. In the one case, which terminated fatally, the tumour was very large, weighing 22 lbs. I commenced the operation with the intention of fixing the stump extra-peritoneally; but, in tying the broad ligament on the left side, I unfortunately transfixed a large vein, and a hæmatoma resulted—in trying to remedy which, I lost much time and was only partially successful. Thinking that a sloughing stump would prove a dangerous neighbour to a hæmatoma, I extirpated the cervix per vaginam. The patient died on the third day.

In one case I removed a cancerous uterus, which, though not complicated with myoma, was too large to extirpate per vaginam. The method adopted was similar to that above described, but the patient died of septicæmia.

PORRO.

I performed Porro's operation upon a patient who was sent into the Lying-in Hospital with rupture of the uterus, extending into the posterior fornix of the vagina. The fœtus had entirely escaped from the uterus, which on abdominal palpation could be felt firmly contracted in the left iliac fossa. At first I mistook it for the fœtal head, but this was subsequently discovered in the vagina. The child having been extracted with forceps, a f blood and clots came away. Following up the funis, my hand passed through the rent, which was, of course, at least as large as the circumference of the fœtal body which had passed through it; having removed the placenta from amongst the intestines, and washed out the abdomen with hot water, hæmorrhage continuing to an alarming extent, I opened the abdomen, and, the control of the bleeding by the most rapid method being a vital necessity, I applied an elastic ligature around the cervix, and removed the uterus. Having secured all the other vessels not included in the ligature, I sewed up the rent in the posterior fornix as well as I could, washed out the abdomen, and drained per vaginam. The patient collapsed.

CÆSAREAN.

There were three cases of Cæsarean section, which I shall bring forward again in the Report of the Lying-in Hospital. All the mothers and two of the children survived.

EXTRA-UTERINE FŒTATION.

Abdominal section was performed in three cases of extra-uterine fœtation, one of which has been already mentioned, and the other two I brought forward before, and are fully detailed in the Transactions of the Academy. Two mothers recovered; and one, on whom I operated because of putrefaction of a large hæmatocele, died.

BROAD LIGAMENT CYST.

I operated recently upon a large cyst of the broad ligament. The patient had recovered from an attack of general peritonitis some years previously, and, in consequence of this, the intestines were so firmly and so universally adherent, that the operation was one of great difficulty. I succeeded, however, in evacuating the cyst, and stitched the edges of the opening to the abdominal wound. I did not, however, succeed in freeing the intestinal adhesions, which was one of the objects of the operation, and a fæcal fistula, which has almost closed, resulted from my attempts to do so.

PERITONITIS.

In four cases I performed abdominal section for peritonitis. In one of these there was a wandering spleen, the patient recovered from the operation, and went home; but the fluid re-accumulated, and her medical attendant was obliged to tap her. I have not heard of her since. Another was a case of tubercular peritonitis. I performed abdominal section, and removed a large quantity of ascitic fluid, and also the ovaries and tubes, which were extensively diseased. The fluid, however, rapidly re-accumulated, and I performed a second abdominal section, and on three subsequent occasions tapped her with a trochar and canula. After the third tapping she got a purulent peritonitis, and I was obliged to perform a third abdominal section, leaving in a rubber drainage tube. She also got pleurisy on the left side, for which I was twice obliged to tap her chest; but, contrary to all our anticipations, she ultimately recovered, and went home well. A third case was diagnosticated as suppurating hæmatocele, and presented all the physical signs of that disease. On opening the abdomen the peritoneum was found about three-fourths of an inch thick, and, having divided it, I unfortunately cut through the peritoneal and muscular coats of the subjacent intestine; but this I immediately closed with sutures. I then passed my finger down the back of the uterus, into Douglas' pouch, and evacuated a quantity of pus; washed out the cavity with hot water, and drained it per vaginam. Six weeks later a fæcal fistula formed, and she ultimately died of marasmus three months after the operation. The *post-mortem* examination revealed general tubercular peritonitis, and three distinct collections of pus in different parts of the abdomen. There was one case of purulent peritonitis following childbirth. The patient had been delivered in another hospital. The pus was localised in the anterior part of the abdomen, and pointed about two inches below the umbilicus. I evacuated about two pints by a free incision, and inserted a rubber drainage tube. She made a rapid convalescence.

INTESTINAL ANASTOMOSIS.

A very interesting case was one of ileo-uterine fistula. When the patient was admitted into the Rotunda, she defæcated entirely through the uterus. From the character of the fæces, and the history of the case, it was evident that the uterus had ruptured during labour and that a coil of small intestines had become strangulated in the rent.

Upon opening the abdomen I found a loop of the ileum attached to the lower part of the posterior surface of the uterus. Having detached it and brought it out of the abdomen it was found necessary to resect about two inches of the damaged portion; the divided ends were closed, and the intestinal canal restored by anastomosis by means of bone plates. She made an excellent recovery, and when last heard of was working in the fields.

NEPHRECTOMY.

There were two nephrectomies—one for scrofulous kidney, and one for hydronephrosis of a wandering kidney. In the former I removed the organ by a lumbar, and in the latter by an abdominal incision, and I have no hesitation in giving the preference to the latter method. In the first case the kidney was full of abscesses, and enlarged to about four times its natural size. The patient was dreadfully emaciated, so that I could see no circumrenal fat, and the peritoneum was adherent to the anterior surface. In separating these adhesions I tore through the membrane, and a quantity of blood and tubercular matter escaped into the abdomen. Having removed the kidney, and closed the lumbar incision, I turned the patient upon her back, opened the abdomen, and washed it out with hot water. The patient made a good recovery, and has gained three stone in two years. A hernia, however, formed in the abdominal wound, for which I operated successfully about six weeks ago.

The indication for operation in the second case was periodic violent pain. The incision was in the linea semi-lunaris, and I encountered no difficulties. Both patients recovered.

PROLAPSUS RECTI.

Abdominal section for prolapsus recti sounds rather heroic; but in the case in which I operated, the uterus was adherent to the rectum; and when the latter came down, the uterus followed, passing out of the anus fundus foremost. Having opened the abdomen, and drawn up the uterus, I separated the adhesions which connected its posterior surface with the rectum, and finally stitched it to the abdominal wall. The uterus maintained its position, but the mucous membrane of the bowels came down again after some months of complete relief, and required local treatment.

UMBILICAL HERNIA.

The umbilical hernia I operated upon by Sänger's modification of Mr. L. Tait's flap-splitting method. In this the fibrous ring surrounding the opening is split with scissors, and the flaps thus formed are turned outwards and inwards, the deeper ones being united by a continuous catgut suture, and the superficial by an interrupted suture. The result was excellent.

EXPLORATORY.

There were six exploratory incisions: four were in cases of inoperable cancer, of which three died. One was a case of pelvic suppuration; she died, but I do not think the operation accelerated the fatal issue.

The sixth was a peculiar one. The patient, an unmarried girl, had an abdominal tumour, about as large as an adult head, which caused her very great pain. It was soft, but did not give me the impression of containing fluid; and being intimately connected with the uterus I had no doubt that it was a soft myoma, and advised operation to relieve the pain. On opening the abdomen, however, I came upon a large hæmatoma. I closed the abdomen again. The patient made an excellent recovery, and after two months no trace of the tumour was to be felt.

These cases comprise all the abdominal sections performed in the Rotunda Hospital between November 1, 1889, and October 31, 1892.

Art. XIV.—*Two Cases of Disease of Mastoid and Petrous Portion of Temporal Bone in connection with Disease of the Ear.*[a] By J. P. Doyle, Surgeon to St. Joseph's Children's Hospital, Dublin.

Since my connection with the Children's Hospital, Temple-street, I frequently see cases of affections of the ear, but have met with only two in which portion of the temporal bone became very much affected. In private I operated on a member of our profession for mastoid periostitis, which began in the fauces and extended to the ear. I saw one case in a child who was dying at the time from an abscess connected with the brain from extension of disease of the ear through the temporal bone.

On April the 1st, 1891, a child, aged one year and nine months, was brought to the Children's Hospital, Temple-street, in a moribund condition, for a swelling behind right ear and a profuse discharge from it. This child had been under treatment for three or four weeks at the out-patient department of one of our special hospitals for a discharge from its ear, which it had for five or six months. The surgeon under whose care it was kindly sent it over to us, as they had no vacancy. The little patient was in a very emaciated and collapsed state, having constant vomiting, cough, paralysis of right side of face, and some congestion of lungs. The finger, on pressing abscess behind ear, at once slipped into a cavity in the bone, and you could nearly empty the abscess through the external ear—the pus regularly streamed out—it was very offensive, thin, and of a greenish hue. Having opened the abscess and cleansed the parts with an antiseptic solution, I had to desist from further measures, owing to the child nearly dying on the table. The following morning I removed portions of loose bone that lay in the cavity, one portion being nearly half an inch in diameter. The child progressed favourably until the following Sunday, April 5th, when, after a visit from her mother, she became greatly excited, the vomiting returned, and on April 11th she passed quietly away. All through her intellect appeared unimpaired.

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[a] Read before the Surgical Section of the Royal Academy of Medicine in Ireland on Friday, December 9, 1892.

On removing the scalp over the position of the abscess (specimen exhibited) a circular opening half an inch in diameter was found behind and partially above the right external auditory canal which leads directly inwards and forwards through the internal and middle ear. This cavity communicates at the junction of the squamous and petrous portions of the temporal bone with the middle fossa of the cranium by an irregular aperture about a quarter of an inch in diameter. The dura mater along the outer, anterior, and posterior borders of the opening was detached. The centres of the under-surface of the inferior and middle convolutions of the right temporo-sphenoidal lobe which corresponded with the inner opening in the bone were superficially soft and abraded. The other portions of the brain appeared healthy. A quantity of serum escaped on incising the dura mater. No portion of the semicircular canals, middle or internal ear, remained, nor could I find any trace of the facial nerve in this portion of its course, but a structure which looks like it can be seen passing through the position occupied by the stylo-mastoid foramen.

When this case first came under observation the external opening in the bone was larger and more irregular. Owing to the reparative changes that took place it had diminished in size, and the margins had become smoother. It now has the appearance of a trephine hole.

There is at present in St. Joseph's Hospital a fair-complexioned, delicate boy, aged two years, upon whom I operated on the 10th of September last for mastoid periostitis and caries of petrous portion of right temporal bone. He has paralysis of facial nerve of same side, with contraction of pupil and convergent strabismus of right eye. This child had a chronic discharge from the ear for twelve or thirteen months prior to admission, and had some aural polypi removed at a special hospital, but they always returned. In January last he had multiple abscesses and disease of bone of last phalanx of left middle finger. The opening I made over the mastoid process communicated freely with the middle ear, and with the external meatus through a fistulous opening in the posterior bony wall at the point from which the polypi sprouted. The periosteum was detached from the mastoid process, and the base felt rough, and was so hard that it was with some difficulty it could be penetrated.

The hard condition of the mastoid portion of the temporal bone that exists in this case has been described by some authorities as a subacute condensing osteitis, which is said to depend on prolonged inflammation of the antrum and middle ear, which causes the mastoid and other cells or spaces to gradually fill up with bone substance. The mastoid cells in young children are very slightly developed.

There was not much difficulty in carrying out the operative measures required in these cases. In making Wilde's incision in cases of mastoid periostitis, it is as well to begin the incision below, and feel that you are well on the mastoid process—it is surprising how deep you have sometimes to go before you strike it.

As regards trephining—the mastoid process—the subject has been so often before you for discussion that I have little to add, and it would seem presumptuous on my part to allude to the treatment of affections of the ear in the presence of so many competent members of this Section.

In the majority of cases so many factors enter into the causation of suppurative disease of the middle ear besides constitution, environment, and the various micro-organisms, that it would produce an unnecessary long paper to discuss them all. In some cases it is affections of the teeth and tonsils, in others the nares or naso-pharynx, you have to attack before you succeed in curing or ameliorating the ear trouble. However, by perseverance and attention to the various details of treatment, you can, in most instances, bring your case to a favourable termination.

A great advance has been made in the treatment of ear, throat, and nasal affections by the use of sprays and antiseptic remedies, and by removing the causes of obstruction in the fauces, pharynx, and nares.

In children, when you find any disease in the fauces or other passages in connection with a discharge from the ear, it is as well to administer an anæsthetic and thoroughly examine nares and dilate or remove any granular or other conditions of these parts or pharynx. I generally find you can clear the roof and back of pharynx at one sitting, using the curette or forceps through nares or mouth. In children, owing to the want of room and narrowness of the fauces, it is more satisfactory in many instances to remove slices from the tonsils, if enlarged, with a curved scissors instead of using a tonsillitome.

HIPPOCRATES, CELSUS, GALEN.

We are glad that Dr. James Ferguson has reprinted his "Bibliographical Demonstrations" concerning these three ancient authorities in medicine. The papers on Hippocrates and Celsus appeared in the *Glasgow Medical Journal;* that on Galen in the *British Medical Journal.* All three will be read with great interest, abounding in historical and professional details, and showing extensive bibliographical research.

CANCER IN CANADA.

Dr. Playter, of Ottawa, has been endeavouring to ascertain whether cancer is increasing in Canada, as it appears to be in Great Britain, and he publishes his results in the *Montreal Medical Journal.* He compares 1883 and 1891, for the five principal towns of the Dominion, and gives the ratio of deaths from cancer to 1,000 of population in each for those two years. His figures are:—Montreal, 0·545, 0·390; Toronto, 0·331, 0·360: Quebec, 0·594, 0·420; Halifax, 0·825, 0·540; St. John's, 0·500, 0·150. So far as these ratios show, cancer is not increasing in Canada.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Anatomy of the Brain and Spinal Cord. By J. RYLAND WHITAKER. Second Edition. Edinburgh: E. & S. Livingstone. 1892. Pp. 173.

THIS is the second edition of a work which first appeared in 1887 as a much smaller and much less pretentious book. The first edition, it was explained in the preface, contained the substance of a series of demonstrations given by Mr. Whitaker in the Edinburgh School of Medicine, and it was evidently written specially for Edinburgh students. It was a simple, concise, trim little book; it contained all that an ordinary student required to know, and, with the exception of some slight errors, it was accurate enough on the whole. It pretended to no originality, it was written for students, and it evidently found favour with them. The present edition is much more imposing in bulk and style, but we must candidly say that we prefer the first issue on the score of usefulness and accuracy. This present edition is overfed with a mixed diet which seems to lie unhappily in it. It is in places unequal—here too much is attempted, there too little; sometimes trifles or unimportant matters are elaborated with the greatest care; again, really important points are passed over lightly. We fear few students will get a clear and connected working knowledge of the cord and brain from a perusal of the book; on the contrary, we are inclined to think that a confused idea of the central nervous system would be the result. This arises partly from the fact that the recent results arrived at by Golgi's methods have been freely introduced, but somewhat sparingly explained or connected with the general description; and partly from the method in which the various subjects are treated. The descriptions are not written in such a way that they convey a mental picture of the parts described, they have a certain get-me-off-by-heart ring about them which is unsatisfactory.

The illustrations are profuse; there are forty lithographic full-page plates, each containing several figures. In general they are good both in design and execution, but the references to many are too meagre.

The arrangement of matter is the same as in the first edition—membranes, cord, brain, development.

There are many points in the anatomy with which we cannot agree. For instance, the two veins of Galen are described as opening separately into the straight sinus (this, of course, they may occasionally do, but it is unusual), and they are described as lying on the *upper surface* of the velum interpositum. The inferior petrosal is made to open into the lateral sinus *before* it leaves the skull (see Knott, *Jour. of Anat.*, XVI., and others). The description of the cerebral veins is very incomplete. On page 64 the medulla is said to be placed between the cerebrum above, the pons in front, and the cerebellum behind, although we are told on the same page that its long axis is vertical. We are strongly opposed to the use of the terms "tract of the fillet," "leminicus," &c., as applied to the bundle of fibres lying behind the olive on the medulla. The explanation of crossed paralysis on p. 72 is very incomplete. On p. 89 the uvula is described as lying between the "tonsils." This, of course, is correct, but there is no explanation whatever as to what the tonsils are—the name "amygdaloid lobes" is subsequently mentioned, the lobes are not described, so the reader has to find out for himself that the tonsils are the undescribed amygdaloid lobes. It is said (p. 93) that the two halves of the inferior medullary velum are continuous *beneath* the nodule. The roof nucleus of the cerebellum is referred to on p. 94 as being different from the nucleus fastigii. The choroid plexuses of the fourth ventricle are described as lying on the *under surface* of the pia mater of the roof of that ventricle. On p. 114 and following pages are found *tables* of the convolutions to be made out on each lobe of the brain; these tables are of no possible use that we can see. On p. 121 is a novel and startling statement—namely, that the *posterior* lobe of the pituitary body was originally a "hollow prolongation from the *pharynx*." We fear that anyone simply following the directions given on p. 126 for the reflection of the velum interpositum would never find the pineal gland in its place. On p. 139 the description of the corpora geniculata is very incomplete; and the statement that the inferior brachia of the corpora quadrigemina are lost between the corpora geniculata interna, is unintelligible. We do not like the description on p. 140, which puts the pineal gland *in front* of the corpora quadrigemina, and which says that "*posteriorly* the pineal gland is connected with the posterior commissure." Nor is it calculated to give a correct idea of the connections of the fornix, to say that "it is an arched white band, which connects the hippocampi with each other and with the optic thalami." Lastly, speaking of the internal and external capsules, it is said, "*these* so-called capsules are of the greatest importance clinically, for through *them* pass the chief motor and sensory tracts." The italics are ours.

From the foregoing it will be seen that we are of opinion that the book wants retouching. We are inclined to think that in carrying out this process nature might be consulted more freely than in the present edition with great advantage. We hope to see future editions run more in the lines of the first than of the second issue of the work.

The Hydro-Electric Methods in Medicine, with Chapters on Current from the Main, Cure Gymnastics, &c. By W. S. HEDLEY, M.D. London: H. K. Lewis. 1892.

THE by-ways of therapeusis have a fascination for some physicians who, like Bunyan's pilgrim, like at times to leave the high-road. Such excursions, however, tend to faddism—and of all unloveable characters the faddist is the worst.

Dr. Hedley, steering clear of this danger, has produced a really useful book, in which he has reprinted some of his better known contributions to our weekly contemporaries.

Book on the Physician Himself, and Things that concern His Reputation and Success. By D. W. CATHELL, M.D., Baltimore, Mo. Tenth Edition. Carefully Revised and greatly Enlarged. (Author's Final Revision.) Philadelphia and London: The F. A. Davis Co. 1892.

THE critic is disarmed before a book which is intended to promote morality. It is cruel to sit down and study the author's methods, and dilate on their advantages and disadvantages.

Members of the medical profession are not especially in need of a whole volume of moral platitudes. Telling a body of gentlemen to preserve the ordinary amenities of life, and to recall the short

Commandments to mind now and then, is but another way of saying that the persons addressed do not respect social courtesies, and forget the negations of the decalogue.

Again, of what use are chapters on the conduct of a gentleman at home and abroad? Such writing no more begets a delicate sense of honour than a book of etiquette gives an easy manner. If a physician finds he needs a monograph, let him get a pocket edition of the "Proverbs" of Solomon, adopt them as a rule of life, and depend on a knowledge of his profession for success.

The book has attained to a tenth edition, showing that many desire to improve and conform their conduct to a high standard of morality and honour—a fact which of itself is encouraging.

The Medical Annual and Practitioner's Index: A Work of Reference for Medical Practitioners. Eleventh year. Bristol: John Wright & Co. 1893. 8vo. Pp. 767.

This "hardy Annual" has appeared in good time upon the present occasion, and fully sustains the reputation which the publication has made for itself. The volume is divided into three parts. Part I., on "Therapeutics," includes a dictionary of new remedies, and an able review of therapeutic progress in 1892, by Professor H. A. Hare, M.D., Professor of Therapeutics in the Jefferson Medical College, Philadelphia, and Editor of *The Therapeutic Gazette.*

Part II. forms the greater portion of the book, and is really a dictionary of new treatment in medicine and surgery. In it cholera forms the subject of six different contributions, representing the characters exhibited by the epidemic of 1892, in Asia, Russia, and Germany, and also the views held by various esteemed authorities in respect to the methods of prevention and cure of the disease.

Part III. is devoted to miscellaneous subjects, and includes important Sections on Sanitary Science, 1892, from the pen of Dr. Joseph Priestley, B.A., D.P.A., Medical Officer of Health for Leicester; on Dietetic Preparations (including mineral waters), the Progress of Pharmacy, and New Inventions. The book concludes with useful lists of lunatic and idiot asylums and homes for inebriates in Great Britain and Ireland; hydropathic establishments; private homes for invalids; a very useful catalogue of the principal medical works and new editions published during 1892; and, lastly, an "official and trade directory."

As to the style of the "Medical Annual," we have nothing but praise. Its pages are clearly printed on excellent paper, and are well illustrated with good wood-cuts, as well as coloured drawings. It deserves and has secured success, for it has reached its eleventh year of publication.

The Year-Book of Treatment for 1893; *a Critical Review for Practitioners of Medicine and Surgery.* London, Paris, and Melbourne: Cassell & Co. (Limited).

THE present edition of this Year-Book differs from its fellows by the addition of a new article by Professor Corfield, on "Public Health and Hygiene." All the well-known sections of medicine and surgery are entrusted to the same writers as before—a distinct advantage, for the writer has come to know what the reader most desires, and can meet his wants. Besides, he knows what facts have already been before his readers, and so avoids unnecessary repetition.

In one important particular the Year-Book has improved within the past two years. The extracts from journals are given with more fulness, so that the sentences have lost the appearance of references and have become readable. To those who wish to keep abreast of the times we commend the Year-Book as a reliable and well-arranged book of reference.

A Manual of Practical Medical Electricity. By DAWSON TURNER, B.A., M.D., F.R.C.P. Ed.; M.R.C.P. Lond.; Lecturer on Medical Physics and Electro-Therapeutics, Surgeons' Hall, Edinburgh. London: Baillière, Tindall & Cox. 1893.

THIS book is designed to meet the wants of practitioners and students to whom an elementary work, kept as far as possible free from mathemathical and physical definitions and formulæ, is a desideratum.

Electricity has within the past twenty years made such progress, and our knowledge of it—especially as a therapeutic remedy—has been so much enlarged, that a work on the subject has become a necessity to the general practitioner who in his student's days heard little of the nature of an electrolyte, and for whom the theory of Grotthus and Clausmo had no terrors. All such will find the necessary knowledge for the use of electricity made plain to them in this monograph, and to them and all others its clearness, brevity, and practical character will make it a popular handbook.

Queen Victoria's Jubilee Institute for Nurses, Scottish Branch: Fourth Annual Report, 1892. Pp. 28.

The object of the Institute has already been explained in the pages of this Journal—it is, briefly, to provide trained nurses for the Sick Poor in their own homes. And the nurses are doubly trained—they must, in the first place, have gone through a regular hospital training followed by a qualifying examination; but, in the second place, they must have received further instruction in "District Nursing."

The Queen's motherly instinct for her people's welfare led to the founding of the Jubilee Institute in 1887, and a more glorious memorial of Her Majesty's fifty years' reign cannot well be imagined. In Ireland, not less than in England and Scotland, the work of the Institute has so far been crowned with success, and we are happy to say that two flourishing Nursing Institutions in Dublin—the St. Patrick's Nurses' Home and the St. Lawrence's Nurses' Home—are affiliated to the Institute, which is spreading its influence and its work to all parts of our island.

The fourth Annual Report of the Scottish Council, which lies before us, tells of another year's work well and faithfully accomplished. Twenty-seven District Probationers entered the Home during the year. Twenty Nurses completed their training and have received appointments. At the close of the year the Council were responsible for thirty-one nurses, of whom six formed the permanent staff of the Central Home in Edinburgh. During the year fourteen new Local Associations were formed in connection with the Institute, and engaged Queen's nurses. In Edinburgh and Leith alone, 1,969 cases were nursed, and 40,977 visits were paid in the twelve months included in the Report. The receipts for the year amounted to £1,731 9s. 5d., the ordinary expenditure was £1,641 1s. 10d., leaving a surplus to credit of £90 7s. 7d.

To the Report is appended an interesting account of "A Day in the District Home," written by a nurse. It concludes with this paragraph :—"Such is the daily round of the District Nurses' lives. They are happy in their work, and in all weathers and under all circumstances try to alleviate the suffering and misery they encounter."

Annual Report of the Civil Medical Department of H.H. the Nizam's Government for Fasli, 1300. By SURGEON LIEUTENANT-COLONEL LAWRIE, M.D., Residency Surgeon, Hyderabad.

MANY Eastern potentates have been known in Europe for their wealth and prowess; but the first of them to have his name so intimately associated with beneficence is H. H. the Nizam of Hyderabad. As a ruler he seems to live for his people's welfare alone, and the promotion of their happiness appears to be the object of his life. In these philanthropic works His Highness is ably assisted and seconded by Surgeon Lieutenant-Colonel Lawrie, whose work is recorded in the Report before us.

We cannot give a reprint of the 26 folio pages in which the medical work is told—even a summary is more than the space at our disposal allows. The few facts we give, however, like all others in the Report, tell of the beneficence and charity of H. H. the Nizam, and of the administrative talents and professional abilities of Surgeon Lawrie.

First we draw attention to paragraph 64, which is as follows:—

> "Since the Commission (Chloroform) ceased its labours a continuous record, commencing in July, 1891, of all cases of chloroform administration in the Afzul Gauj Hospital has been kept by myself; of these there are now over 1,300 cases, and the details of each case completely confirm the truth of our principles."

We copy this for unprejudiced readers. Of course there are some who refuse to accept any evidence in favour of chloroform, and attempt to explain away facts—such persons are not amenable to reason.

Paragraph 61 contains the following important statement:—

> "The investigations of the Commission (Chloroform), however, have established two points: (1) That cases of syncope can only take place when the rules laid down for administration by the Hyderabad Commission have not been followed, and the concentrated vapour has been employed, or an overdose has been given; and (2) that such stoppage of

the heart occurs not on account of any cardiac weakness caused by chloroform, but by the threatened or actual overdose calling into play the natural check of the vagus nerve, which by stopping the heart endeavours to prevent the spread of the overdose to the vital parts of the system."

A very remarkable case of anæsthetic leprosy cured by cutting down on the nerve, opening its sheath and removing a quantity of granular matter from it, is told in paragraph 57.

A graphic account of how native women attempt to stop afterbirth bleeding tells of the necessity of some qualified midwifery practitioners in Hyderabad. To place the bleeding patient with her back against a stone wall, and then employ an old woman to butt her with her head as a goat over the womb, is certainly a primitive method of producing uterine contraction.

As at home, the people in Hyderabad will submit to torture from quacks, and cheerfully pay for nauseous nostrums to every mountebank who comes vaunting his remedies.

Nurses there, like at home, love to outstep their province, and one of them who got possession of a pair of short forceps left unmistakable evidence of her visits.

Of opium Surgeon Lawrie writes:—" An immense number of people in this country owe their health to opium, and would not only fall an easy prey to disease, but would actually suffer in general health if they did not take it."

How this is accounted for we know not. What are the climatic or racial peculiarities that make opium a necessity of health for the Hindoo, and do conditions exist in China that make its use a necessity and not a vice by the Chinese, is a problem that requires to be solved.

Tartar emetic still continues to give good results in the Afzul Hospital—such results as in this country we do not get from the drug, yet this may be due to our lack of knowledge of how to use the drug. Graves used it with success in fevers separately, and combined with opium, that no physician has since attained.

Abscess of the liver is, as might be expected, a common disease in Hyderabad, and we learn that in 1891 twenty-six such cases were operated on by aspiration and incision of the liver. Of these four died. Of the cases that recovered one was aspirated twenty-seven times.

The total number of operations performed at the Afzul Hospital during 1891 was 888; of these 13 died, and 875 were dismissed cured—showing a very low death-rate indeed, particularly so when we know that the greater number of the operations were major ones.

The Report is creditable to all concerned in its production. Creditable to the enlightened philanthropist whose munificence made the good work possible; creditable to the accomplished surgeon who controls and directs the work; and creditable to his numerous skilled assistants who carry the work to its completion.

The Value of Hypnotism in Chronic Alcoholism. By C. L. TUCKEY, M.D. London: J. & A. Churchill. 1892. Pp. 57.

THIS is a reproduction, with some additions and alterations, of a paper read before the British Medical Association at its last Annual Meeting. It does not deal with the methods used in hypnotism, but only with its results in cases of chronic alcoholism. These results Dr. Tuckey considers encouraging, and he has added the testimony of other medical men. He considers that hypnotism will succeed where the subject is desirous of cure but lacks the will power to take the initial step. If so, a troublesome class of cases will be benefited. In the generally more hopeless form, where there is no desire of amendment, Dr. Tuckey is not confident of benefit to be found by hypnotism.

The *brochure* is well printed, but the parchment cover looks more suited for an appeal to the public than to the author's professional brethren.

Mineral Springs and Health Resorts of California, with a Complete Chemical Analysis of every Important Mineral Water in the World. Illustrated. A Prize Essay. Annual Prize of the Medical Society of the State of California. Awarded April 20, 1889. By WINSLOW ANDERSON, M.D., M.R.C.P. (Lond.), M.R.C.S. (Eng.), &c., Joint Editor and Publisher of the *Pacific Medical Journal.* San Francisco: The Bancroft Company. 1892.

IN this well-printed and tastefully-bound volume of 384 pages the author gives a detailed and interesting account of the localities and their natural products of this attractive portion of the New World, which have made them specially important to the invalid and to the medical man. The text is copiously illustrated with wood-cuts, which, although somewhat amateurish in the details of execution, are nevertheless very judiciously arranged, and usually so disposed on the page as to give a tasteful artistic effect.

The author displays throughout the whole of this book the peculiar facility for making a naturally dry subject interesting—by a breezy lightness of style, and the skilful interspersion of skilfully-chosen pieces of collateral information from unexpected sources, which form so striking a characteristic of the better class of American literature—both scientific and non-scientific—of the present day. A short historical sketch of the exploration, subsequent settlement, and later developments of the Californian State is appended, which will be read with interest even by those who may not care to instruct themselves in the details furnished in the earlier parts of the volume. The derivation of the name of California has proved almost as great a trouble to antiquarians and philologists as did that of Laputa about the date of the explorations of Lemuel Gulliver; and the author has here done good service in lightening the labours of future generations of members of these professions by giving strong evidence to show that there is "very little if any doubt that the name 'California' had its origin in the fertile brain of Senor Montalvo, a favoured Spanish novelist, . . . who published a romance in 1510, entitled 'Las Sergas del Esforzado caballero Esplandian,' in which the name appears twice. . . ." Montalvo describes, with graphic power, the physical geography and natural history of this region:—"To the right hand of the Indies, there was an island called California, very near the part of the terrestrial Paradise. . . ." This island was inhabited by black women of Amazonian energy, who believed so thoroughly in women's rights, that "they were resolved to lessen the men to so small a number that they would be able to master them without much trouble, with all their lands, and preserve those who would understand that it was convenient to do so that the race might not perish." There were a great many *griffins* about, whose natural instincts were utilised by the governing females to maintain their ascendency, for they used to catch these monsters "by tricks," and "when they were accustomed to them they used to feed them with those men and the male children they bore. . . ." "Any man who landed on the island was at once killed and eaten by them; and though they might be glutted, they would, not the less, take them and lift them up, flying through the air, and when tired of carrying them, they would let them fall, where they would be killed at once."—and so on.

The introductory portion of the volume consists of a series of short sections, devoted to the physics and therapeutics of thermal springs, and mineral waters in general. All the theories and facts that are usually to be found in the larger works which deal with such subjects have been carefully compiled and presented in a very readable form. We know of no better introduction to the subject in the English language at present. The subjects of "The Skin" and "The Bath" are extremely well treated.

On page 68, the author commences the description of the Californian springs in series. Their number is legion, and they include every variety; among which are found individual representatives—in chemical composition, peculiarities of temperature, and therapeutical action—of all the more important European spas. Analyses of the waters of all the more important ones are given in full detail. The early visitors to California gave full scope to their fancies in selecting names for the springs which attracted their attention. In the Yellowstone Park, they have "Proserpine's Grotto," "Pluto's Punch-bowl," the "Devil's Grist-mill," &c. As the author observes :—"As the first visitors at this Californian hecla were at a loss for motive power to produce all these boiling, steaming, and spouting stygian sluices, they naturally turned to their early teachings for a solution of the phenomena. As they were all good people, and had early been taught the power of his Satanic Majesty located—well, he used to reside in the infernal regions, presumably in the centre of the earth—where they most naturally gave him the credit, and named the springs with their present euphonious names of 'Devil's' this and 'Devil's' that, a process of reasoning that has been applied to names given at a more recent date." And so we find the "Devil's Pulpit," the "Devil's Tea-kettle," the "Devil's Canopy," the "Devil's Kitchen," the "Devil's Canon," the "Devil's Inkstand," the "Devil's Oven," &c., among this *olla podrida* of Hadean liquids. But all the localities have not been consecrated to his sable Majesty; and we find a "Lover's Leap," and a "Lover's Retreat," among the favoured nooks of the Yellowstone Park. We have also a "Temperance Spring," of clear, cold water; and a "Post Office," formed by a knot-hole in one of the gigantic trees growing near by.

It may make the corporations of some other cities envious to learn that there is a "gas well" near the south-western edge of the City of Stockton, which "produces from 70,000 to 80,000 cubic feet of gas in twenty-four hours. . . . The owners purpose laying pipes into the City of Stockton, in order to supply it with heat and light from nature's laboratory, at greatly reduced rates." Nature does certainly seem to have dealt her gifts with riotous profusion to this romantic region of California. In the matter of springs, she has been as liberal as in other departments—all varieties are there—from the semi-solid "mud" to the inflammable gaseous; cold, hot, and tepid; acid, alkaline, and neutral; saline, sulphurous, and chalybeate, &c., &c. Most of the chronic ills to which human flesh is heir appear to have been favourably influenced by one or more of the mineral springs of California.

The author has collected an exhaustive series of analyses of the important mineral waters of the world into the latter portion of his volume—pp. 271–342. The student of that department of therapeutics will find this portion of the book convenient for comparison and for reference. Throughout the whole of the descriptive part of the volume, the labour of reading is lightened by the occasional glimpses of architecture, of scenery, and of landscape-painting, with which the author evidently delights to refresh his reader, and to which the numerous illustrations lend additional interest. We consider Dr. Winslow Anderson's book an instructive and an interesting one, and one which does justice to its subject. We have ourselves derived both profit and pleasure from the perusal of its pages, and we cordially recommend it to medical practitioners, both in Europe and in America.

An Introduction to Latin Prose Composition. By MAURICE C. HIME, M.A., LL.D., Head Master of Foyle College, Londonderry. London: Simpkin, Marshall, Hamilton, Kent & Co. Dublin: Sullivan, Brothers (Alex. Thom & Co.). 1893. 8vo. Pp. 154.

OCCASIONALLY we leave the beaten track to notice an extra-medical book. There are cogent reasons why we should do so in the present instance. As medical education and practice are now constituted, a sound knowledge of Latin is nominally required and should be indispensable. Alas! how far from the ideal is the reality in this matter. It is true that no longer are classical works on medicine and surgery written in Latin; but prescriptions are so written and oftentimes the directions accompanying them as well—and in what Latin! Every rule of syntax is not infrequently set at nought, the signs of the cases are overlooked, the order of the words is neglected.

We have often thought it would be far better to adopt the vernacular in our writing of prescriptions, than to persist in the use of an ungrammatical lingo, which bears somewhat the same relation to the language of Cicero in writing that the "pigeon-English" of the Chinese does to the language of Shakespeare in speaking. However, if Latin is to be retained in medical practice, it should be well taught and carefully learned. Both these desirable ends may be secured with the aid of Dr. Hime's "Introduction to Latin Prose Composition," the latest contribution to literature of his facile and accomplished pen.

The book, neatly and clearly printed on excellent paper, and with strictest accuracy, consists of five chapters, and costs only eighteen pence, net. The principal rules of syntax are given and illustrated in Chapter I. The signs of the cases and the order of words in Latin composition are explained in Chapters II. and III. Then follow in Chapter IV. fifty exercises, which are literal translations, with notes from Cornelius Nepos, Cæsar, Cicero, and Livy; while Chapter V. contains an exercise specially composed to test the pupil's knowledge of all the rules of syntax.

A "Key" to the Exercises, by the author, may be purchased for six pence, so that for the modest sum of two shillings any person may set about teaching himself Latin prose composition—always provided that he has at hand a good Latin dictionary, for Dr. Hime purposely omits to mark the quantities of syllables, to conjugate verbs in full, or to give the genders of substantives. "Boys," he says, "can be too much spoon-fed in these particulars," and we are inclined to agree with him.

VAGINAL HYSTERECTOMY FOR CANCER.

In "a gynæcological number" of the *Times and Register* (New York and Philadelphia) Dr. H. J. Bolot, of New York, tabulates thirty-six cases in which he performed vaginal hysterectomy for uterine cancer, with a mortality of 8·3 per cent. We observe, however, that in seven cases at least, entered as "recoveries," the disease returned with fatal result; and in seven cases only had three years elapsed from date of operation. Dr. Bolot adds—"Were I to count in the vaginal hysterectomies for other purposes than cancer, as other operators sometimes do, the rate of mortality would be diminutive."

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By **Henry T. Bewley**, M.D., F.R.C.P.I.; Assistant Physician to the Adelaide Hospital, Dublin.

i. The Treatment of Pernicious Anæmia.
ii. Cirrhosis of the Liver.
iii. Fixation Abscess.
iv. New Re-agents for Albumen.
v. Diabetes.
vi. The Clinical Forms of Pulmonary Consumption.
vii. The Treatment of Myxœdema.
viii. The Treatment of Diabetes by Pancreatic Extracts.
ix. Follicular Tonsillitis.
x. The Treatment of Dropsy of the Legs by Incisions.
xi. Anæmic Murmurs.
xii. The Ice-Bag.
xiii. Cholera.

THE TREATMENT OF PERNICIOUS ANÆMIA.

Dr. D. J. Brackenridge, in a paper on the treatment of this affection by the transfusion of human blood, concludes thus:—

(1.) If all the necessary precautions are strictly adhered to, the operation is perfectly safe.

(2.) Quite healthy blood, with living blood corpuscles, can be added to the diseased blood of the patient.

(3.) This blood exerts a beneficial influence both on the blood with which it is mixed and on the blood-forming organs, for sooner or later the abnormal peculiarities in the forms and the exceptional varieties of the corpuscles disappear; and sooner or later the blood corpuscles begin to increase in excess of those added by the transfusions.

(4.) These facts are opposed to the view that an abnormal destructive activity of a disordered liver is the only or the main pathological condition in pernicious anæmia. On the contrary, he believes that the disease is caused by a delicacy and tendency to early death of the red corpuscles, due to some functional weakness in the blood-forming organs. Consequently, without any abnormally-increased destructive force in the portal system and organs, a greatly increased death-rate of these delicate and short-lived corpuscles takes place.

Dr. Brackenridge gives the histories of five cases treated in this way, from one to seven injections being employed in each case, and about four ounces of blood being transfused at one time.—*Edinburgh Med. Jour.*, Nov., 1892.

Dr. G. A. Gibson records a case treated in accordance with the views laid down by Dr. Hunter, viz., that the disease is due to excessive hæmolysis, which is probably caused by the presence and activity in the alimentary canal of some special micro-organism, and that consequently the diet should be as far as possible fatty and farinaceous, so as to lessen as far as possible the liability to blood destruction, while, with the same object, intestinal antiseptics should be employed, preferably β-naphthol.

When the patient came under treatment on Jan. 29, 1892, his red corpuscles amounted to 800,000 per cubic millimetre. He was first treated with arsenic, which soon had to be stopped, as it caused vomiting and diarrhœa. Then the proto-chloride and per-chloride of iron were given, and by March 2nd the corpuscles amounted to 920,000, but the man was so weak six ounces of blood were transfused, but without much benefit. Then β-naphthol was given, 2 grains in pill three times a day. For a time the corpuscles lessened in numbers, till a severe and lengthy attack of diarrhœa came on, after which the number of the corpuscles was 1,600,000, and the patient's colour was much improved. From this time he steadily improved in every way, till in September the corpuscles amounted to 3,620,000.

Dr. Gibson calls attention to the increase in the red corpuscles during the attack of diarrhœa, and holds that it was, at any rate, partly due to increased intestinal antisepsis.

A case of chlorosis in a young woman was also treated with β-naphthol, with very good results.

β-naphthol tends to irritate the alimentary canal. It is therefore well to combine it with bismuth salicylate.—*Edinburgh Med. Jour.*, Oct., 1892.

CIRRHOSIS OF THE LIVER.

In a discussion at the meeting of the British Medical Association in 1892, Dr. W. B. Cheadle called attention to the fact that in ascites from cirrhosis of the liver the progress of the case is not always progressively from bad to worse; on the contrary, in those cases in which the liver is enlarged, though hard, recovery from the ascites may be complete. When however the liver is small and contracted, he does not think permanent improvement ever takes place when once dropsy has come on.

With regard to treatment, his chief faith is centred in early and repeated tappings. He believes it to be very injurious to the patient to wait, as is often done, till the abdomen is excessively distended, when all the organs in it are injuriously affected by the pressure, and respiration almost ceases in the bases of the lungs; the most injurious effect, however, of the pressure being that it prevents the dilatation of the venæ communicantes, the new channels upon which the relief of the obstruction so vitally depends.—*Brit. Med. Jour.*, Nov. 19, 1892.

ON FIXATION ABSCESSES.

This method of treatment, which we described in our last report (*Dub. Jour. Med. Science*, Sept. 1892, p. 250), continues to be employed by Continental physicians, and several cases have been published in which the patient's recovery seemed due to the turpentine injections. It has been employed in other diseases besides acute pneumonia, *viz.*, puerperal fever, and rheumatism with empyema.

This procedure is recommended by Rivilliod (*Rev. Méd. de la Suisse Romande*, 9, 1892.)

ON THE PRACTICAL USE OF SOME RECENTLY-INTRODUCED REACTIONS TO DETECT ALBUMEN.

Dr. B. Vas has contributed a careful paper on this subject to the *Ungar. Archiv. f. Medicin*, 1892. His main points are:—

1. The trichloracetic acid test. To about ½ drachm of filtered urine, 15 drops of a 30 per cent. solution of trichloracetic acid are added. If albumen is present, a cloudiness occurs, more or less marked, according as more or less albumen is present. This test will detect albumen when not more than ·002 per cent. is present. According to Vas, the limit for the test by boiling is

·005 per cent. If the urine be rich in urates a cloudiness may occur, but this disappears on warming.

2. The sulphosalicylic test. Vas employed a 20 per cent. solution of this substance, of which he added a few drops to the urine. If the albumen present reached ·002 per cent. in amount, a distinct cloudiness occurred. This test is more delicate than the acetic acid and ferrocyanide of potassium test. The only normal or abnormal substance besides albumen precipitated by sulphosalicylic acid is albumose.

3. The acetic acid and corrosive sublimate test. A few drops of a mixture of 1 part of dilute acetic acid with 6 parts of 1 per cent. solution of mercury perchloride are added to the urine, when a cloudiness occurs if albumen be present. This test only shows albumen when it amounts to ·06 per cent., and causes a turbidity even when no albumen is present.

4. The acetic acid and sulphocyanate of potassium test. This test solution consists of 100 parts of 10 per cent. sulphocyanate solution and 10 parts of dilute acetic acid. A turbidity occurs in urine whose albuminous constituents do not exceed ·004 per cent. This re-agent has no effect on any other urinary constituent.

Vas describes several other tests, but considers them inferior to those described. Of these he assigns the first place to sulphosalicylic acid, and the second to the acetic acid and sulphocyanate test.—*Centralblatt f. inn. Med.*, 1892, No. 43.

ON DIABETES.

An interesting paper on the pathogenesis of diabetes, by Lépine, is reviewed in the *Centralblatt f. klin. Med*, 1892, No. 33. Lépine's conclusions are as follows :—

Diabetes is caused by a preponderance of the sugar-formation in the body over the sugar-destruction. This disturbance of the natural equilibrium can occur in various ways, and so there are various forms of diabetes :—

1. Sometimes the sugar-producing diastatic energy of the blood is increased, while, at the same time, the sugar-destroying power lessens. This state can be experimentally produced, as, for example, in states of asphyxia.

2. In the pancreas in diabetes is seen an apparently slight change, consisting of an increase of connective tissue round the acini. The effect of this lesion is of considerable importance, for the following reason :—A ferment which breaks up and destroys

sugar is formed in the acini, and is then absorbed by the veins and lymphatics that lie round the acini. When the above-mentioned increase of connective tissue takes place, this process of absorption is lessened or altogether stopped. On the other hand, the diastatic (sugar-producing) ferment makes it way along with the pancreatic juice into the intestine, and thence is absorbed into the blood. Under these circumstances, the blood will contain the normal amount of diastatic ferment and too little glycolytic (sugar-destroying) ferment, the result of which is diabetes.

3. If the pancreas is extirpated, or so diseased that its functions are almost anulled, diabetes can occur in the following way:—One source of both the above-mentioned ferments is removed. The diastatic ferment however is produced in other organs, *e.g.*, the salivary glands. Moreover the liver cells can form sugar out of carbohydrates, while the glycolytic is formed only in the pancreas. Thus the formation of sugar exceeds its destruction.

4. Injection of pancreatic juice into the blood produces diabetes, because the blood becomes over-saturated with the constituents of the pancreatic juice. This process may occur in human beings when an excessive production and absorption of pancreatic juice occurs, and the blood comes to contain relatively too much diastatic ferment.

THE CLINICAL FORMS OF PULMONARY CONSUMPTION.

Maragliano calls attention to the strange differences which exist between various cases of tuberculosis of the lungs. In some cases the focus of disease remains circumscribed, there is no fever, and the general nutrition of the body hardly suffers at all; while in other cases the disease spreads rapidly, there is continuous high temperature, and there is rapid wasting and loss of strength. The common explanation is, that the latter condition is a later stage of the former. This Maragliano does not believe, not seeing how features so different could arise from the same cause, but considers that in them there is a mixed infection. He holds that tubercle bacilli by themselves in the lungs do not cause fever, wasting, &c., but that these symptoms are due to a chronic septicæmia, similar to the purulent infection met with in surgical wards. He believes that the tubercle bacilli open the door, as it were, to pyogenic cocci, which, as a matter of fact, are frequently found in tuberculous lungs, and that these cocci are the cause of the septicæmia.

In this way we may understand why in cases of infection with tubercle bacilli alone the patient's health suffers comparatively little, while when the infection with the mixed virus occurs the general condition suffers extremely. The tubercle bacilli in this view are only an indirect cause of the hectic fever, &c., in so far as they injure the vitality of the lung tissue, and so render it unable to withstand the pyogenic cocci.—*Berl. klin. Woch.*, 1892, No. 12.

THE TREATMENT OF MYXŒDEMA.

Since our last note on this subject a very large number of cases have been published in which injections of thyroid juice, or implantation of a part of a thyroid gland, have been employed. All these reports almost unanimously speak of the great benefit derived from the treatment.

Dr. M'Call Anderson (*Practitioner*) gives an account of two cases. One of these was under his care before the use of thyroid juice was suggested. He observed that the patient was always better in warm and worse in cold weather, and accordingly used remedial measures, of which the effect was to stimulate the glands of the skin. She received the following treatment every third day in rotation:—First day, a vapour bath; second day, ¼ grain of pilocarpin hypodermically; third day, a hot electric bath for half an hour. Each of these procedures made her perspire profusely. She also took a mixture containing strychnin and arsenic, and was shampooed daily for half an hour. Under this treatment all the physical signs of the disease disappeared in about three months, and her mental slowness and drawl in speaking improved greatly.

In his second case, which presented all the typical features of the disease, thyroid juice was employed, [illegible] administered by the mouth. Within six weeks a striking change was noticed. She became thinner, her weight falling from 9st. 3lbs. to 8st. 1½lbs.; the swelling disappeared; the mental and bodily hebetude entirely passed away; the speech and intellectual faculties became perfect. The improvement is illustrated by means of photographs.

In this case the thyroid juice employed was Dr. Murray's extract, prepared by Messrs. Brady and Martin, Newcastle-on-Ty[illegible] A bottle containing about 80 minims was supplied once a week, [illegible] which the patient took one-fourth part for four consecutive days, and then waited for three days before taking any more.

In the *Brit. Med. Journal* for October 29, 1892, are found recorded two important cases. Dr. Hector Mackenzie describes the case of a woman who had suffered from myxœdema for over four years, and had been several times in hospital. On July 27th two sheep's thyroids were pounded up and given to her to swallow, and the treatment was continued up to August 17th. The result was great improvement. The immediate effects of the thyroids were acceleration of the pulse and rise of temperature, up to 99·4° F. on some occasions. The dose recommended is one thyroid every second day, or half a gland every day.

The other case—a most successful one—is recorded by Dr. E. L. Fox (Plymouth). The patient took at first a glycerine extract, and subsequently half a thyroid, lightly fried and minced, and glycerine extract, each once a week. "Her face has resumed its ordinary proportions, her speech is normal, the œdema has gone, and menstruation has returned."

Other interesting and successful cases will be found recorded in the *Brit. Med. Jour.*, 1893, Nos. 1671, 1672, and 1673.

THE TREATMENT OF DIABETES BY PANCREATIC EXTRACTS.

The success of the treatment of myxœdema has induced various practitioners to try the same mode of treatment in other diseases.

Dr. Hector Mackenzie records two cases of diabetes to whom liquor pancreaticus was administered in half ounce doses thrice daily after food. No other medicine was given, and the diet was unaltered.

In both cases the patients believed themselves benefited, saying they had lost to a great extent their feeling of languor and lassitude, and felt stronger in every way, They also passed less urine, though the specific gravity remained as high as ever. Dr. Mackenzie says the results in these cases are encouraging enough to make him try the method in other cases.—*Brit. Med. Journal*, 1893, No. 1,672.

In the same issue Dr. Neville Wood also recounts the histories of two patients to whom zymine and keratin-coated pancreatin ills were given. He does not think the treatment did much good. everal other curious substances have been injected into the of patients suffering from various diseases. Everyone about Brown-Séquard's Elixir Vitæ. Dieulafoy has injected aneously kidney extract in a case of uræmia.—*Soc. Méd. des* Oct. 14, 1892.

C. Paul, in several cases of neurasthenia, employed a glycerine extract of the gray matter of a sheep's brain.

FOLLICULAR TONSILLITIS.

This disease, according to Drs. Sokolowski and Dmochowski, is a pseudo-membranous inflammation which is localised in the lacunæ of the tonsil. They carefully examined the tonsils removed from these patients suffering from this disease, and found that a fibrinous membrane covered the tonsils completely, and also extended into the crypts. More or less marked necrosis of the superficial layers of the epithelium was found in every part. In short, the microscopic appearances of these tonsils exactly resembled those found in diphtheritic inflammation of the tonsil. And yet these three cases ran the typical course of follicular tonsillitis. The day after the tonsils were removed pyrexia ceased, and the wounds healed without any complication. Drs. Sokolowski and Dmochowski suggest that this affection should be called tonsillitis lacunaris pseudo-membranacea; the name follicular tonsillitis is quite incorrect, as the follicles are unaffected.

The ætiology of this disease has recently been studied by Hoppe-Seyler. He examined six cases of what had all the appearance of simple follicular tonsillitis, and in the exudation found numbers of characteristic diphtheria bacilli lying in groups, while there were very few micrococci. These cases subsequently ran the course of diphtheria.

From these observations, and from the fact that follicular tonsillitis is an infectious disease, whole families being often attacked with it—while on the other hand, during epidemics of diphtheria, cases are often seen of sore throat which in all respects resemble follicular tonsillitis—Loch is induced to believe that most of follicular tonsillitis are really mild attacks of diphtheria.—*Deutsche med. Zeitung*, 1892, No. 99.

ON THE NATURE OF DIPHTHERIA.

In the *Korresp. Blatt f. Schweitzer Aerzte* Rheiner (St. Gallen) gives an interesting *resumé* of his views on this subject:—

1. The diphtheritic membranes are produced by an inflammatory sero-fibrinous exudation from the vessels of the mucous membrane, with secondary coagulation-necrosis of the affected parts. When the inflammation ceases, the membrane formation ceases of itself. Heubner, Henoch, and other experienced physicians are on this

ground opposed to any energetic local treatment. Painting the pharynx often only increases the inflammation by the mechanical and chemical irritation it causes, and drugs intended to dissolve or digest the membrane are useless.

2. Follicular tonsillitis, both as regards local and general symptoms, often greatly resembles diphtheria, so also do herpes and pemphigus of the pharynx after the vesicles have burst.

3. True diphtheria is most probably caused by Löffler's bacillus, which cannot with certainty be discovered in the membrane till the second day of the disease. This bacillus is to be found only in the local lesions, never in the internal organs. Diphtheria is therefore at first a local disease; subsequently a chemical poison is produced in the inflamed area in the throat, and being absorbed produces general infection.

4. The prognosis of the bacillary form is not as favourable as that of the pseudo-diphtheritic; however, the severity of the case does not always depend on the amount of the exudation.

5. Diphtheria coming on during scarlatina is usually a sore throat, showing a tendency to necrosis, caused by the virus of scarlatina. Löffler's bacillus is not usually present; the prognosis is good. However, true diphtheria may come on as a complication of scarlatina, and generally proves fatal.

6. Exact knowledge as to the bacteriology of membranous rhinitis and laryngeal croup does not as yet exist.

ON THE TREATMENT OF DROPSY OF THE LEGS BY DEEP INCISIONS.

This treatment, although known for a long time, has recently been but seldom employed. Dr. Arnemann (Eisleben) gives in the *Therap. Monatschrifte*, No. 10, 1892, a good account of its merit in certain cases. A man, aged sixty-three, the subject of chronic Bright's disease, was exceedingly ill, so that it seemed death could not now be far off. He was suffering from extreme dropsy, orthopnœa, and cyanosis, and signs of œdema of the lungs were present. There had been for some time no secretion of urine. As a last resource eight incisions were made through the whole thickness of the œdematous skin, each cut being 1¼ inch (3 cm.) long. At once water began to pour from them; the man began soon to breathe better, and became able to lie down. Water poured from the cuts in such quantities that it was impossible to keep him dry, and during the night the water ran on to the floor, and dripped through the ceiling into the room beneath! The improvement was wonderful; after some days the flow ceased, and an effusion occurred into the left pleural cavity. This was removed by aspiration, after which the kidneys began to secrete much urine, dropsy completely disappeared, and the patient recovered his ordinary state of health.

In comparison with the success of this case Arnemann gives the opinions which several well-known physicians have published with respect to this mode of treatment. Schubert, v. Ziemssen, and Gerhardt unite in condemning it, chiefly on the ground that pathogenic organisms often find their way in through the cuts, and produce serious, and even fatal, inflammation. On the other hand, many other writers have often seen such incisions heal without any inflammatory reaction. This conflict of opinion Arnemann believes is due to the different manner in which the cuts have been made. He says they should be few in number, but considerable in size; that they should be made right through the skin and subcutaneous areolar tissue; and that their external opening should be large. Under these conditions the fluid pours away quickly and easily, and any germs that may be near the cuts are swept away by the flow. On the other hand, if there be made small cuts or punctures the flow dries up, and germs stick in the openings and multiply there.

ON THE DIAGNOSTIC VALUE OF SO-CALLED ANÆMIC MURMURS.

Dr. Crook (New York) contributes a paper on this much-disputed subject to the *American Journal of Medical Sciences*, Feb., 1893. He examined 1,500 persons, a few of whom were healthy, and the rest suffering from various diseases. Among these he found 51 well-marked cases of hæmic murmurs. In 618 females he found 43 murmurs (6·95 per cent.), and in 882 males 8 murmurs, rather less than 1 per cent.; 43 of the 51 murmurs occurred between the ages of 10 and 30 years. Among 31 patients who were noted as anæmic, he found 28 murmurs (90 per cent.). Among 122 cases of phthisis were 8 murmurs, while among the remaining 1,349 persons only 15 murmurs were heard. On these data Crook comes to the following conclusions:—

(1.) Hæmic bruits are rarely found in healthy persons.

(2.) They are heard in 90 per cent. of persons showing a considerable degree of anæmia.

(3.) They are therefore of great significance in the diagnosis of this condition.

THE THERAPEUTIC VALUE OF THE ICE-BAG.

The familiar linseed poultice seems at present rather under a cloud, while there appears to be a "boom" in ice-bags.

Dr. D. B. Lees believes that many internal inflammations should be treated with cold applications. In 18 cases of pneumonia he noted, as consequent on the use of ice-bags, a fall in temperature of three to four degrees, as well as distinct improvement in the patient's symptoms and a lessening of the physical signs. He believes that in pneumonia the ice-bag is the proper treatment, and that in pleurisy and pericarditis its good effects are equally well marked.—*The Clinical Journal*, 1892, No. 1.

In a paper in the *British Medical Journal*, 1893, No. 1677, the same author details seven cases of pericarditis treated in this manner. Six of these cases were rheumatic, and made very good recoveries; the seventh occurred during an epidemic of influenza, was complicated by right pneumonia and empyema, and left pleurisy without effusion, and proved fatal. Dr. Lees concludes:—"The ice-bag, when used with sufficient caution, is a safe application in pericarditis; it is usually liked by the patient (most cases preferring it to hot poultices); it tends to check the violence of the inflammation and to hinder effusion; and even may help to cause absorption of effusion when that is already present."

ON CHOLERA.

As was to be expected, innumerable articles have been published in foreign journals upon this subject during the past six months. We can only here refer to a few papers by authorities of the highest standing:—

Dr. v. Ziemssen, referring to treatment, says that we must remember we have to do with a specific parasitic process affecting the mucous membrane of the small intestine, which causes an enormous transudation of fluid into the bowel; in consequence of this the poisons (toxins) produced by comma-bacilli make their way into the blood, and exercise an injurious effect on the heart and nervous system. In the commencement of a case warmth and rest in bed are necessary, and tea containing some rum may be given, or wine negus. Calomel should be given, a dose of 7 grains being repeated several times, followed by a smaller dose every two hours.

The following solution should be injected into the bowel:—Laudanum, 20–30 drops; gum arabic, 1 oz.; 1 per cent. solution of tannic acid, 2–3½ pints. This is best done by means of a douche apparatus. It acts as an astringent, and also as an antiseptic.

The drain of fluid from the blood should be supplied by repeated injections into the subcutaneous tissue, or into the veins, of solutions of common salt; strength, 0·7 per cent. Such a solution may be approximately prepared by dissolving a drachm of sodium chloride, or 40 grains of sodium chloride and 20 grains of sodium bicarbonate, in a pint of water. These injections can be carried out by means of a glass syringe, containing about 2 ozs. This is connected with an aspirator needle by an indiarubber tube. If the fluid is to be injected into a vein, a bandage is applied round the arm; the needle is introduced into a vein, the syringe is connected with the needle by means of the tube, and after removal of the bandage its contents are slowly injected. The syringe is withdrawn and refilled as often as necessary, care being taken to squeeze the indiarubber tube while the syringe is removed.

As a means of stimulation subcutaneous injection of strong camphorated oil (1–5) is recommended.—*Münchner med. Wochenschrift*, 1892, No. 41.

Inoculations to prevent cholera have been introduced by Dr. Haffkine (Paris), and are described by him (*Brit. Med. Jour.*, Feb. 11, 1893), and by Prof. Wright, of Netley (*Ibid.*, Feb. 4, 1893). The disease is an intoxication by the products of the comma-bacilli in the intestine, which products are absorbed into the system and cause the symptoms of the disease. The bacilli are never found in the tissues, and if injected subcutaneously speedily die. It is found, however, that the products of these injected bacilli are absorbed, and render the system capable for some time of resisting the poison produced by cholera germs introduced into the alimentary canal, thus allowing time for their elimination. There are many details in the process for which we must refer to the original papers. In practice Dr. Haffkine uses two vaccines—first a weak one, which prepares the way for the second injection. This consists of a vaccine rendered artificially more virulent than any likely to be introduced into the intestine. These inoculations enable guinea-pigs to resist a dose of cholera microbes four times as strong as one which proves fatal to uninoculated animals. Whether immunity can be successfully conferred on human beings remains to be worked out; we already know from many experiments on men that these inoculations are harmless.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

Diseases of the Antrum. By PROF. DR. C. PARTSCH, of Breslau. Translated from "Handbuch der Zahnheilkunde," Wien, 1892, by ARTHUR W. W. BAKER, M.D. Univ. Dubl., F.R.C.S.I.; University Examiner in Dental Surgery, Trin. Coll., Dublin.

INJURIES, inflammations, and tumours are those which form the chief affections to be observed in the antrum.

The injuries of the antrum occur at the same time as those of the upper jaw; for in every more important lesion of the upper jaw the antrum is involved. The injuries of the upper jaw are, without exception, caused by direct violence, such as a push, blow, gunshot injury, or a fall. The lesion of the antrum is rarely the one which attracts attention in these injuries. The symptoms are the same as those about which we shall have occasion to speak in treating of the occurrence of inflammation in that cavity.

For the dentist, the most important injuries of the antrum arise through its accidental opening in the extraction of upper molars. Not infrequently the roots of upper molars project into the mucous membrane of the antrum (see "Anatomy of the Antrum," in the anatomical section of this work), and unite with it by a process of chronic inflammation. Should it then become necessary to extract the root, there comes with it not only the chronically inflamed tissue on the apex, but also a portion of the closely united mucous membrane of the antrum, and the antrum will thus be opened. This accident, if recognised at once, has no special importance—should it be overlooked, the consequences are serious.

The injuries caused by extraction are betrayed by moderate hæmorrhage, or blood-tinged nasal mucus from the corresponding nasal passage, further by a peculiar nasal tone in the utterance of the patient. If the patient be made to hold his nose and to blow with force, the air whistles out of the extraction wound. This sign is more trustworthy than much probing and searching for an opening, because it shows even very small perforations which can scarcely be found with a probe.

Should the union of the alveolus with the antrum prove to be undisturbed, one cleanses the wound canal thoroughly, and plugs it at once with iodoform gauze. This is removed after three or four days—in most cases the small wound in the antrum is already closed and the patient is now saved from further trouble.

If the wound is left to itself, or if the blood is allowed to flow into the antrum, the purulent decomposition of it is only a question of time, and we see that empyema of the antrum follows, as I know by experience in several cases operated on by other persons, while I have never observed a mishap in all openings of the antrum undertaken by me, whether accidentally in extraction or for diagnostic purposes.

So the interest in diseases of the antrum is concentrated in the inflammation process itself, in purulent catarrh, empyema.

During the past year it has become the pet child of open discussion and literary activity. In a short time it has become possessed of a special literature of its own, so that it does not directly appear an easy task to place a short statement of the question in a limited compass without losing oneself too far in detail.

By empyema of the antrum—analogous to empyema of the pleura, gall-bladder, &c.—is denoted every collection of pus in it. But to demand that this collection of pus should lead to a widening of the cavity—to an alteration of its dimensions—to, respectively, a vaulting or widening of the walls which form the cavity, in order to deserve the name empyema, as G. Scheff (22) has lately done—I maintain to be unjustifiable and mistaken.

As the anatomy of the antrum in this work has been depicted by such an expert masterhand, I must here presuppose that knowledge, and I can at once turn to the much debated question as to how pus originates in the antrum.

The authorities are here divided into two camps—the one side think that the cause of the pus is to be found most frequently in the diseases of the teeth. This view may be denoted as the older; it has its chief representatives among the surgeons. The others adopt the view that it is the extension of inflammation from the nose that causes the suppuration. The latter view finds its chief supporters in the ranks of specialists for nose and throat diseases. According to my opinion it would be wrong to adopt in any way one of these views, and to maintain, as G. Scheff (22) will have it, "that empyema is always to be traced back to a dental source." One need only draw the conclusion of this point of view to its furthest limit in a therapeutic direction in order to see the fallacy of it. Only the conflict of opinion warns that, without prejudice, in every case we should seek after the true cause, then only shall we gain in treatment the best results.

In my opinion, the first cause of a purulent catarrh consists always in an increase in the secretion of the antrum, in a disturbance of those conditions which physiologically underlie the activity of the glandular structure of the mucous membrane of the antrum.

That an increase of the secretion in the antrum must lead to its retention inside the cavity depends on the anatomical relations which allow of a flowing off of a secretion to the nose—a normal condition of the internal opening being understood—only in a certain position of the head, or by its collecting up to the level of the internal opening.

It is easily apparent that every stagnant secretion may become decomposed by the possibility that with the breath, or from the nose, decomposition ferments can reach the antrum.

Now the causes which can bring about an increased secretion are of various kinds. They can operate on the mucous membrane from the antrum and its neighbourhood. They can also be in the mucous membrane itself. Every foreign body which has got into the antrum—needle-points, drainage tubes, unerupted and diseased teeth—can, by mechanical irritation, rouse the mucous membrane to greater activity. Chemically, the decomposition products can irritate which have got into the cavity with the nasal mucus, or which have been formed there by the entrance of micro-organisms.

So we can easily understand the extension of a catarrhal condition from the nose into the antrum. Swelling of the mucous membrane, hypertrophy of the middle turbinated bone, or polypi, can retain a small quantity of secretion between them and the walls of the nasal cavity. Give this an opportunity of decomposing—a small quantity is sufficient—it flows in through the nasal opening of the antrum, and by the bacteria which eventually travel in here with it ferments are produced which induce irritation of the mucous membrane of the antrum; they excite it to more active secretion, and so lead to a purulent catarrh. For this purpose it is not necessary, as has been assumed, for so severe a nasal catarrh that "its secretion should accumulate to the level of the opening in order for it to flow into the antrum."

Further, it may be supposed that changes due to swelling of the mucous membrane, cysts, true new formations of a benign and malignant character, by their influence on the blood supply to the mucous membrane can produce an increased secretion. Also, finally the possibility is present that inflammation occurring in the immediate neighbourhood of the mucous membrane calls forth a more profuse secretion. In this respect every syphilitic periostitis and ostitis, and every tubercular bone focus in the upper jaw can operate in the same way as a root membrane inflammation on the root of a molar. This latter cause will practically most frequently confront us, owing to the frequency of tooth caries and the close proximity of the mucous membrane of the antrum and the roots of the teeth, as is so beautifully illustrated in Fig. 77 of Part I. of this handbook. Of the roots of the upper teeth it is specially the buccal roots of the first and second molars, and the roots of the second bicuspid, which reach close to the mucous membrane of the antrum. Also, by altered conditions of form occasionally, the third molar and first bicuspid can come into close contact with it. All inflammatory conditions which affect these roots—whether it be an acute purulent or a chronic glandular fungous periodontitis—will on that account very readily affect the antrum, because they find here a place of less resistance rather than the spongy portion of the alveolar process through which otherwise they would have to find a vent.

This variety of possibilities which can lead to an increase of the secretion of the mucous membrane of the antrum, whose decomposition is only a question of time where purulent change depends on the slower or quicker action of certain micro-organisms which either operate synchronously with the cause or step in later, lets it appear absolutely impossible in any single case to pretend to say beforehand whether it is of dental or nasal origin; only the duty rests with us in every case to search thoroughly for the right cause.

We have not many opportunities of observing the altered mucous membrane of the antrum from a case of purulent catarrh. Most frequently the tumours of the upper jaw which encroach on the antrum give us opportunity for it. Then one sees the mucous membrane, which, in a normal condition, is thin, delicate and pale-red, now swollen, loosened, thickened to the extent of several millimetres, bright red slightly shading to blue. The cavity appears full of a thick, glossy, tenacious mucus, frequently streaked with yellow. If the pus is stagnant for some time in the antrum, it is often thickened to a crumbly, cheesy consistence, stained in varying hues from yellow to green, which generally has an intense smell which can be clearly distinguished from ozœna. Di- and tri-methylamine should, according to Bayer (2) be the cause of this. The pus is often so strongly adherent to the mucous membrane, that a strong stream of fluid or even the sharp spoon is necessary for its removal.

Many authors describe the contents of an antrum affected with empyema as a thin, clear, amber-coloured, transparent fluid, containing cholesterin plates. These statements awaken the suspicion, after my experience, that often enough cysts of the upper jaw, whose contents possess chiefly the qualities already named, have been mistaken for affections of the antrum. In undoubted cases of purulent catarrh of the antrum I have never missed the purulent condition of the contents of the antrum.

The symptoms which in this disease will be perceived by the patient are, as far as concern the nervous system, extremely varied. While many patients harbour a large collection of pus in the antrum without a complaint worth mentioning, others have severe neuralgic pains in the upper jaw, unilateral headache, pressure in the eye and ear, giddiness, and migrane in the corresponding half of the head. In severe cases the symptoms are augmented to sleeplessness, general depression of spirits, and hypochondriasis. The patient will subsequently become anæmic and run down.

The most frequent complaint of patients is of a profuse foul discharge from one nostril. The increased secretion may be discharged through the outer nares. Then the patient observes that he is obliged frequently during the day to use his handkerchief—so often that he is compelled to change handkerchiefs on the same day. If the secretion be examined it is not only serous mucus, but in addition shows many yellow or green tinges. Yet very often the abundant secretion takes its course through the posterior nares, and then during the day will be got rid of through the mouth by hawking and coughing—frequently it is also even swallowed. Thereby the decomposed material comes in contact with the taste organs. Not only the foul smell but, moreover, the insipid directly disgusting taste frequently drives the patient to the physician. The sense of smell of the patient is wont to be dulled chiefly by the ever-present dry coryza.

The production of the discharge is often continuous; nevertheless, more frequently the patients declare, especially those in whom the secretion takes its course through the posterior nares, that the discharge is present in the early morning from one to two hours after rising, and that they are then fairly free from it during the day. Also, the altered position of the head often brings on the discharge, whilst by assuming a given position an outflow of pent-up fluid from the antrum will be induced.

That this hypersecretion is unilateral, and remains so, is, in most cases, a very important diagnostic sign, with the exception of those not very rare cases of bilateral suppuration of the antrum. One must also remember that, where there is a very abundant secretion, the fluid coming from one antrum may overflow through the posterior nares into the nasal passage of the opposite side.

In the older literature, as well as in the work lately appearing from Scheff (22), the distension of the walls of the antrum is given as a most valuable and important symptom of empyema of that cavity; by many is also added a swelling of the cheek covering the malar prominence. I am entirely of the view expressed by König, Volkmann, and Ziem (30, 31), that the distension of the wall of the upper jaw to the thinness of paper, the parchment-like crackling—frequently even the disappearance of the bony plates—is more often seen in other diseases of the antrum—viz., in tumours—but that it is not at all characteristic of empyema. On the other hand, I entertain the strong suspicion, of which ample proof would here lead me too far, that most, if not all, cases of empyema with remarkable distension of the wall, have been wrongly diagnosticated cysts of the alveolar process. Every collection of secretion which comes from the neighbourhood of the antrum does not really originate in the cavity itself. Cysts more usually come from the roots of the teeth of the upper jaw. They develop from the fungus-like growth of the root membrane, and are lined inside with epithelium. Accordingly, after they take up their position, their development proceeds in the lumen of the antrum, and they are actually nearly able to fill it, unless one observes a swelling on the outer or lower wall of the antrum. They are easier to diagnosticate if they by increasing size swell the outer wall of the jaw, fill up the cavity of the mouth, and also produce externally a visible swelling. The roots of the teeth from which they originate may be extracted or lost, but the cyst remains. Its contents may continue clear, transparent, and full of cholesterin plates also containing isolated red blood-cells, or become purulent and thickened.

If the cyst is opened, whether a root connected with it be extracted or its wall is perforated with a trochar, and its contents emptied, its interior, which is lined with a species of mucous membrane, will be accessible to the eye. It will have been such cavities that Scheff illuminated and examined with a simple laryngoscope. In a true empyema of the antrum, to inspect that cavity through the long narrow canal from the mouth is, to me at least, up to this nearly impossible.

Whoever reads carefully through the literature of empyema of the antrum will meet a great number of cases which will awaken the suspicion that the authors have mistaken for such cysts of the upper jaw.

After these explanations, founded upon a special experience of several years, we need for the assertion that a collection of pus truly originates from the antrum, not merely the fact that one can pass a probe two or three inches deep into a cavity, or that the pus comes from a region in which the antrum usually lies, but distinct proof that the cavity truly is the antrum, and does not merely lie within the boundaries of the antrum. If it be shown constantly impossible to drive fluid or air from the discovered cavity into the nasal passage, or in the reversed direction, then is there a strong suspicion that we find ourselves in a newly-discovered cyst cavity. An absolute impermeability of the communication between the nose and antrum is, at all events, very rare. If by an accumulation of secretion, or swelling of the mucous membrane, the inter-communication become interrupted, the impermeability is then only relative.

Rhinoscopy affords us a valuable means of diagnosis which should never be neglected, both from the anterior nares as well as from the naso-pharyngeal space. Almost without exception, the mucous membrane of the nasal cavity on the side of the affected antrum appears swollen, of a deep red colour, and actively secreting. The swelling of the middle turbinated bone appears very distinctly, often the swollen mucous membrane is quite cushioned, and simulates the exuberant growth of a polypus. Between the turbinated bone and the nasal septum may be seen a purulent streak, which one can remove, but is quickly re-deposited again. Walb (29) has specially called attention to the pulsating light reflected from this streak. For the diagnosis of pus in the antrum, the fact of whether the reflection of the light pulsates or not is without importance. Also, its origin cannot be recognised from the streak of pus alone, as it may just as well come from the frontal sinus. The occurrence of yellowish masses of pus in the naso-pharyngeal space at the posterior nares, situated unilaterally, affords a little more certain proof.

There remains the direct evidence that this pus truly comes from the antrum.

It has been thought to use for diagnostic purposes the transillumination of the antrum after the method of Czermak, Voltolini and Heryng (8). It is carried out in this manner—an electric incandescent lamp with a powerful condenser is brought into the mouth, either according to Heryng with a tongue depressor attached, or after the method of Vohsen isolated, and by closing the mouth is brought close to the palate. In a dark room the nose at once appears a glowing red, while the antra appear clearly transparent with a darker red gleam. By a perceptible difference of light one ought to be able to conclude as to the presence of pus in the antrum. It is true that in empyema the triangular space corresponding to the affected antrum sometimes appears darker. But the differences of the illuminated space are so numerous even in perfectly normal individuals, that a conclusion as to diseased changes directly from this is impossible. Any cysts in the upper jaw, no matter whether they be situated in the antrum or not, will affect the illuminated portion. And yet with this no conclusion can be made from their absence. But in this difference is pictured only the variety of anatomical construction and space of the antrum. The method appears elegant, but is of no special value. A great number of carefully collected experiences warrant me to this opinion—it spares us nothing of further diagnostic measures.

The proof is first really successful with the puncture of the antrum, or, properly speaking, with the puncture and washing out of the antrum. It has been much disputed among authors as to whom this method should be properly attributed—to whom the credit is due of having introduced it. Whoever once held in his hand the small treatise by Middeldorpf, in which is described the method of his "Akidopeirastik" (1857), will find that the puncture of the antrum by him has been performed with the express intention of diagnosticating pus in it. If it is still older I do not know.

The puncture is made either from the nose or from the alveolar process according to the requirements of the special case in hand. For the puncture will be employed a syringe with a strong walled canula or a fairly strong trochar. That one can perforate with his instruments a cyst of the upper jaw with very thin walls is intelligible. But still the walls of a normal antrum are so dense that one can only bore through them with a strong trochar and a thrust given with vigour. It can only be done from the alveolar process after boring through it, or from the alveolus of an extracted tooth a thin bony wall has to be thrust through. One avoids, if possible, a place where compact bone is usually found, as it offers to the trochar a very considerable resistance.

The hope that the pus would flow out by means of the trochar which has been successfully introduced into the antrum will only be fulfilled when, as in cysts, the purulent contents are of fairly thin fluid. Pus that has for some time been stagnant in the antrum is generally so tough, lumpy, and cheesy, that it does not directly flow out of the narrow canula, but stops the opening of the canula. It must be broken up and thinned by a stream of fluid before it is able to flow out. At the same time one obtains directly a sure proof as to the permeability of the natural opening of the antrum. The syringe being fixed on to the canula drives the fluid pus through it into the nose, and then the instant the pus comes this way we are sure that it is derived from the antrum. The flowing of pus out through the trochar and canula only leads to the conclusion that pus is present. The position of it is not yet determined; it may originate from a cyst cavity that has grown towards the antrum. It is always necessary previous to this procedure that the nose should be sufficiently cleansed by washing and lightly removing the masses of pus which may be present, in order to avoid the pus which is in the nose becoming mixed with the fluid streaming out of the antrum, and so being deceived as to an empyema in the antrum.

In old-standing empyemata the unpleasant smell of thickened tenacious fluid, frequently almost solid masses, leaves no doubt.

The microscopic examination affords in most cases nothing specially characteristic. Perhaps cylindrical epithelium may be present, which can also come from the nose. The epithelium undergoing degeneration, abundance of micrococci, fatty *débris*, pus and blood corpuscles, the former showing most strongly fatty change and altered form, present together the microscopic picture.

The puncture and washing out is the surest method of diagnosticating empyema of the antrum, carried out together with the above-named precautionary measures. One can even not miss it in those rare cases where by the extraction of a molar the pus at once gushes from the extraction wound. If only the passage to the nose be shown the proof is sure.

There is no need, then, to use the injection of fluid, one can employ the passage of air for diagnosis where, by directing the patient to close the nares, air is driven through the antrum into the mouth, *sit venia verbo*, one blows their nose through the antrum. The sounding noise resulting from the air being forced through at once permits the permeability of the antrum to be perceived.

In most cases it is well to make the exploratory puncture of the antrum with the instrument which is to be used for its drainage, in order at once to commence the treatment of the antrum after its perforation.

The treatment of suppuration in the antrum must, in the first place, have for its object the removal of the cause. That an antrum should be treated by syringing it out while the carious roots of upper molars with inflamed root membranes are left alone, is without reason. Even then the extraction of teeth proved to be diseased is to be carried out, unless they are to be treated conservatively, if they only awaken the suspicion that they are engaged in the causation of an empyema of the antrum Also stopped teeth, which apparently excite no pain, can always be the cause of a circumscribed apical root-membrane inflammation, combined with proliferation of granulation tissue, and so exercise a constant irritation on the neighbouring mucous membrane of the antrum. How often do we observe perfectly painless chronic swellings continuing on the jaw, which will only be maintained by such granulation proliferation.

The closest examination of the mouth and teeth of the affected half of the jaw must precede any therapeutic measure. A hasty view of the teeth does not suffice. Often carious defects are concealed on the approximate surfaces or under the gums by the necks of the teeth, and are only to be found by the most careful examination with mirror and probe. Frequently a stream of cold water reveals an exposed pulp with but a small concealed cavity, or a closer examination of a tooth shows still an isolated sensibility of the root to pressure.

The least suspicion of a possibly affected tooth in the range of the molars and bicuspids warrants its extraction in a case where a unilateral purulent discharge is present, then is an opportunity afforded for opening the antrum. If the antrum be not already opened by the extraction, one perforates it from the bottom of the socket with a chisel or strong trochar. I maintain that this method is more quickly carried out than perforating with the drilling engine, as it is hardly possible with the usual burring engine to bore with a thick drill through the hard bone. A vigorous thrust with chisel or trochar opens the cavity and provides, by a species of rotation movement, with the instrument already introduced for a sufficient width of the canal. The anæsthesia produced by bromide of ethyl renders here excellent service.

I introduce at once into the passage a rubber drainage-tube of the following form (Fig. 98). It consists of a rubber plate vulcanised on at right-angles to a drainage tube, No. 1 or No. 2, having a small flap covering the end of the tube transversely. A drainage-tube being drawn over a bulbed probe nearly to its upper end is introduced with the probe into the canal. It lies close to the wall of the passage, and prevents the entrance of particles of food. Access to the tube is closed by the valve to substances entering from the mouth. The plate may be so cut that it lies well on the alveolar process and between the teeth. It prevents the drainage-tube slipping up into the antrum and facilitates its removal if the canal is moulded round it. Already from the first day the patient is able to syringe out the antrum, he only needs to introduce the syringe into the drainage-tube underneath the free portion of the small valve flap, in order with ease to bring the stream into the antrum. On the withdrawal of the syringe the flap places itself, in virtue of its elasticity, before the opening of the tube, and will be pressed close against it by every bite.

These canulæ have rendered me better service than ordinary drainage-tubes secured to the teeth with threads or bands, or metal tubes with plates for fastening to the teeth. To say nothing of their higher price and the impossibility of applying them in all cases, the latter have the disadvantage that they follow the mechanical working of the bite pressure much less easily, but exercise slight pressure in the bony canal. In using my rubber drainage-tube one has only to mind that the tube is not left too long, as it otherwise will not lie with its upper end on the floor of the antrum, but will reach into it.

Should the canal become covered with granulations the drainage tube should be replaced by a thinner and more delicate one, which in like manner lies snugly against the alveolar process, but is not perforated throughout. I use for this purpose, what is already an article of commerce, the so-called artificial membrana tympani, according to Lucae (Fig. 99), which is formed of a thin, delicate rubber tube carrying a plate, which by virtue of its delicacy adheres lightly and securely to the mucous membrane of the alveolar process. The small tube will be removed at each syringing; the syringing being accomplished, and after antiseptic cleansing, the tube is again replaced. So may the treatment be carried on without inconvenience to the patient for weeks and months as long as is requisite. It remains to be observed that the drainage-tube should not be allowed to remain in too long, as it is capable of acting as a foreign body and exciting the formation of pus. It should be removed as soon as the flow of pus is reduced to a minimum.

Contrasted with the opening of the antrum from the alveolar process, that from the nose offers the great advantage, in that particles of food cannot lodge in the antrum; but it has the disadvantage that it is more difficult to perform, and the after-treatment is more complicated.

Against the claim of Zuckerkandl, based on the anatomical fact that the nasal opening should be made from the middle nares, since here the wall of the antrum may be most easily pierced, must be placed the clinical fact that any empyema, when possible, is to be opened at its lowest point, since otherwise—some secretion being always retained—its ultimate cure will be retarded, if not rendered impossible. It was this reason, perhaps, in addition to the technical difficulty, that caused Mikulicz (20) to carry it out from the lower nasal passage; to him we are indebted for the re-investigation of the opening of the antrum from the nose which had been known to Hunter and Jourdain (11), and had since sunk into oblivion. Mikulicz bores through the nasal wall of the antrum in the inferior meatus with a stilette, fitted at an obtuse angle to a curved handle (Fig. 100). In the meatus the instrument is carried first with its point turned forwards and downwards—if it is kept close to the inferior turbinated bone—then the point is turned gradually outwards so as to come round the lower border of the turbinated bone.

If by turning the handle outwards one succeeds in passing under the turbinated bone, the wall of the antrum is at once perforated with a powerful thrust. Then one cuts out so much of the bony wall by planing and shaving movements that the instrument can move freely in and out in the opening just formed. An abnormal narrowing of the inferior nares, a considerable hypertrophy of the inferior turbinated bone, or an unusual thickening of the bony wall between the antrum and the inferior meatus may render the operation itself difficult or impossible (Michelson).

From the opening the antrum is daily syringed out with a ball syringe until the cure of the catarrh is complete.

The circumstance that in the after-treatment the necessary syringing of the antrum must always be carried out by the physician, or under the direction of the physician, has called forth various changes of the method.

Firstly, Krause (14) has so modified the instrument that he has given it the form of a curved trochar, and by using it for perforation, after the withdrawal of the stilette, the canula can remain, and at once the syringing of the antrum may be commenced. While the search for the opening that has been made by Mikulicz's method, in order to introduce the ball syringe, on account of the certain bleeding, presents definite objections.

Also, after the withdrawal of the canula, in order that the troublesome introduction of the catheter for syringing through the opening formed by perforation may be dispensed with, I have introduced at once a full-sized celluloid tube through the canula itself, pushed as far as the posterior wall of the antrum. If the tube selected be very long (one uses the best celluloid catheters in the market for the purpose), it is easy while the tube is pressed towards the antrum to draw down the canula over the tube, and the celluloid tube being cut sufficiently short to be concealed in the outer nares in the corner between the cartilaginous septum and the ala nasi. So the patient carries it without trouble from four to six weeks so long as treatment is necessary—the patient being in the position to perform the syringing for himself.

Being placed in front of the mirror, he presses the point of the nose upwards, and by dint of practice causes the opening of the little tube to become visible, which usually is hidden in the meatus of the nose. In it he fixes the canula of his syringing apparatus. Larger sizes can also easily be introduced for the eventual dilatation of the communicating passage. My colleague, Schwartz (27), to whom I communicated this method, was so kind as to adopt it, and recommended it warmly. He has also decidedly improved Krause's instrument. The old instrument has the disadvantage that, particularly here where a strong push was necessary to bore through into the antrum, the tapering trochar stopped at its upper end and the opening of the canula no longer closely fitted it, so that in the thrust of the instrument the edge of the canula was turned up if the stilette pierced the wall of the jaw.

Schwartz, then, has removed these really practical inconveniences to the operation by making the trochar completely solid, and in order to turn the curved canula over the firm trochar, at present the canula is made jointed, like König's long tracheal canula.

This modification necessitated, in order that the canula could be easily removed and drawn back over the celluloid tube, a rigid guide rod inside the jointed segments of the canula. This instrument is now so modified as to prove very useful, and I intend to use it exclusively (Fig. 101).

If in one of these ways the passage to the antrum be formed, then comes the task to remove the purulent contents of the antrum, and so far to allay the present catarrhal irritation or purulent inflammation of the mucous membrane of the antrum that no further fluid will be secreted.

The first task is that most easily performed. Then the cavity at once after the opening may be washed out with a warm antiseptic solution as unirritating as possible, or sterilised Koch's solution of salt water 0·6 per cent., the injection requiring a greater or less amount of pressure according to the consistence of the pus and the capacity of the natural opening of the antrum, which generally, also, will readily be perceived by the patient.

It is often necessary, owing to the thickened mass of pus and to a considerable narrowing of the orifice, for a longer time to elapse before the injection runs out clear.

An offensive odour often betrays to what great extent decomposition has taken place in the pus. The patient perceives after the removal of this substance that he is evidently lighter—they forget, in the disappearance of the heavy pressure, and in being free from the tormenting smell, the momentary pain of the operation. Generally, the majority of cases on the day succeeding the operation present a lively and cheerful appearance. Then comes the often more troublesome task for the physician—to bring about the complete cure of the suppuration. Often it can be accomplished by blowing out through the antrum, but only if the perforation has been made from the alveolar process. If the patient be told, while compressing both the outer nares, to drive air from the nose, then, owing to the free communication of the antrum with the nasal cavity, it goes through the canal which has been formed to the mouth, and it carries with it the accumulated pus.

In other cases syringing must be employed in order to bring about a cessation of the suppuration. While this in many cases succeeds very quickly, others take an endless amount of trouble and place a severe test on the patience of the sufferer as well as the physician. It is these cases which always occasion the recommendation of new remedies which are said to have a special action on suppuration in the antrum.

Solutions are recommended and employed, such as boric acid, salicylic acid, permanganate of potassium, sozoiodide of zinc, nitrate of silver, pyoktanin, peroxide of hydrogen, sublimate, Rotter's solution—briefly, every newly-puffed antiseptic. As a washing out apparatus I made use of the adjoining form of douche, which has a rubber ball and pointed injection tube (Fig. 102). It may also readily be employed as a syringe by compression on the upper part of the ball in those cases where stronger pressure is requisite. That in obstinate cases the treatment with dry antiseptics, iodoform or iodol—as has been recommended by Krause and Friedländer (6)—will always attain its object, to my experience appears questionable. I have also lately used the dry "dermatol" (subgallate of bismuth), but without apparent result. The powder treatment of suppuration of the antrum, which has also its advantages—principally that the patient is saved the troublesome syringing—will be conducted in this manner. The antrum having been perforated with a strong trochar, after thoroughly cleansing the cavity of its purulent contents, then by means of Kabier's insufflator, with which is combined a special close-fitting mouthpiece, a large quantity of iodoform or iodol is introduced into the antrum, and, being distributed over it, it is closed. According to the requirements of the case, after a delay of from three to four days a similar insufflation may be repeated. The sozoiodide of zinc, unfortunately, is said to form into a mass, and therefore is of little use for this purpose. It would be desirable to find a substitute for iodoform, as certain persons have such a strong idiosyncrasy with regard to iodoform that they begin to complain of headache, giddiness, vomiting, loss of appetite, besides the constant unpleasant mixture of iodoform with the breath, and the fact that each meal tastes of iodoform. The odourless dermatol has in this instance not yet proved a substitute for iodoform.

The obstinacy of certain cases depends probably on the anatomical changes of the mucous membrane of the antrum, either inflammatory or of the nature of a tumour. For their cure energetic measures will be necessary. They possibly may be treated by making a free passage to the antrum by a wide opening of the facial wall. This method, inaugurated by Desault, was lately warmly advocated by Küster (16).

Küster has improved it in that he taught it to be carried out subperiosteally.

After a previous application of cocain, a flap of mucous membrane having its base above will be traced out, extending from the first bicuspid to the first molar; the periosteum is raised with an elevator, and, while the flap is retracted strongly upwards, the antrum is laid open with chisel and hammer. The opening thus punched out should be made sufficiently wide that the finger may be introduced to explore the antrum. I prefer to illuminate the antrum from the opening with the usual electric light apparatus for the ear or urethra, and to inspect the walls closely. This illumination of the antrum is far more useful than its transillumination. Then whatever one finds as the cause of the suppuration in the antrum—necrosis, roots of teeth, unerupted teeth, foreign bodies, tumours of various kinds, &c.—is self-evident must be removed. Also, the pus may be thoroughly evacuated. If the cavity be then filled wth a loose plug of iodoform gauze, the previous severe suppuration seems to vanish quickly and rapidly as well as all its accompanying complaints. For the after-treatment I have used the drainage-tubes already previously mentioned, but with the difference that I order them to be so manufactured that the plate is not fastened horizontally but obliquely on the rubber tube, in order that they can be easily pushed into the cavity; only the upper half of the plate must be entirely cut off, there being no room for it vertically, since the opening always lies high up on the reflected fold of the oral cavity.

Gradually the opening which has been made so large, contracts to the extent that only a medium sized canal remains, through which the drainage-tube may easily be pushed in and out. A patient has already carried a canula without inconvenience over a year and a day, and cannot be induced to allow it to be removed, as she fears the return of her old complaint, while she feels so perfectly well.

The rubber drainage-tube in the above form remains perfectly steady by itself, and need neither be fixed by an artificial plate nor be fastened round the teeth by threads.

This operation must be reserved as the method for the severest cases of suppuration of the antrum and for the removal of foreign bodies and tumours. For the latter cases it is the only rational one.

The tumours of the antrum will be fully mentioned in speaking of tumours of the jaw.

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ARTIFICIAL FOSSILS.

Dr. B. W. Richardson (*Asclepiad*, No. 36) describes some experiments on dehydration and moulding of organic structures under water-gas. Various organic bodies were exposed under pressure for 1½ hours to the vapour of water at a temperature of 340° F. In all cases the organic parts disappeared, and in some cases moulds or incrustations were left, which accurately reproduced the markings of the body. Some of the illustrations might easily be mistaken for engravings of natural fossils. Judging by Dr. Richardson's experiments, if a loose bed of earth, covered with living organisms, were suddenly to subside under water, and if the temperature of the mass were to be raised to 340° F. for from one to two hours, a stratum of fossils would be formed.

THE ABSTRACT AND INDEX.

The publisher of this monthly journal inquires, "Can you invest a dollar in any way so that it will bring you larger returns than by sending it to this office to pay for *Abstract and Index* until April 1st, 1893? Send to-day; you will forget it if left until to-morrow." It is published in Weston, Vermont, and is now in its seventh volume. The "Abstract" professes to be "the cream of practical medicine and surgery," and the number before us contains nineteen pithy paragraphs on most various subjects. The "Index" gives a list of medical journals, with places of issue and prices, articles from which are indexed. The design of this periodical is excellent, and we are inclined to answer the publisher's query in the negative.

CLINICAL RECORDS.

Malignant Enteric Fever, Septicæmia, and Oliguria.

By W. L. Symes, L.R.C.P.I., &c.

The case, of which this is the clinical record, is one presenting some interesting features as an example of peculiarly complicated enteric fever. It was one of a number under treatment during the epidemic of 1891–2 in the person of a married woman who was cook in a large house, of which the sanitary arrangements were markedly deficient. The soil-pipes passing to the main drain ran through the kitchen and dairy, the former close to the fire and the latter beside the milk-pails. They were not ventilated, and sewer-gas also leaked into the house through the bathroom and housemaids' sinks, from which the escapes, according to the old custom, directly entered the down-soil pipes.

Of a stout, plethoric, and "bilious" temperament, she suffered from a "sick headache" with diarrhœa for the week before taking to bed, and for these familiar symptoms took some podophyllin pills, followed by draughts of Rubinat water, doubtless aggravating the initial diarrhœa of the fever. The fever itself was of a malignant and poisonous type, with excessively foul excreta, and low adynamic symptoms. There was incontinence from the 13th to the 23rd days, and delirium from the 16th to the 19th. The temperature of the primary fever was very far from that usually met with, remissions being peculiarly absent, and like most striking abnormalities in fever betokened a malignant form. Throughout the entire 23 days of the attack on four occasions only was there a difference of more than ·4 points between the morning and evening observations. Again, the temperature never resumed the normal standard after the true primary fever was over, but continued at about 99° until the onset of the septicæmia, showing a lurking and still living state of the specific poison. The pulse was rapid for typhoid—120 to 140.

The diarrhœa was never very excessive, but the stools were extremely foul and offensive. Of the symptoms of the true fever none acquired a very great prominence; those most troublesome were headache, sleeplessness, and restlessness, efficiently relieved, however, by freely leeching the temples. Sordes on the lips and teeth were removed by soda lotions with glycerine, while the stock medicine was one of quinine, hydrochloric acid, and liquor strychniæ. Stimulants were very freely prescribed for the condition of the heart, averaging about 2 pints of champagne per 24 hours, occasionally altered to ℥viij brandy.

On the 18th day there was a slight *hæmorrhage* from the bowels, but not sufficient to necessitate any alteration in the treatment. During the interval from the 22nd to the 26th days—between the true fever and the first evidence of the septicæmia—nothing was specially noticeable beyond the curious reading of the thermometer, which could not be accounted for, and great restlessness on the night of the 24th day (Dec. 4th).

At the evening visit on Dec. 7th the nurse reported a marked change. At 5 p.m. she became very restless, and complained of headache, with cold extremities. She was sighing deeply, and was very much distressed as if something fearful had happened, recklessly throwing her arms and legs about, and wishing to get out of bed. She had muscular tremors, confined to the right side of the body, and frequent escape of flatus. Her temperature was 103·2°, and pulse 150. The condition of the heart was best described as "fluttering," and the *tout ensemble* of her condition precisely similar to the onset of peri-, or endo-carditis, during rheumatic fever. Believing that such was the case here, although no friction, sound, or murmur was as yet audible, six leeches were applied over the sternum, followed by poultices every hour. She was packed in blankets with hot jars, and ℥viij brandy, with half a pint of champagne, was prescribed in 24 hours. She was *very fretful and whining, and had a distressed, agonised, appearance,* excessively thirsty, and wishing to strip abdomen; slight phlegmasia of the left leg. The question of perforation was considered, but on this day an absolute diagnosis was exceedingly difficult.

Dec. 10th.—*Lithates disappeared from the urine.*

Dec. 12th.—Slight phlebitis of both legs.

Dec. 13th.—At 5 30 p.m. severe rigor; temperature reaching 105° four hours later; heart much excited, with pulse 160. Slight bronchitis in the left lung, and flatulent state of the abdomen. *Urine clear*, and small in quantity; liver slightly enlarged upwards and very tender, as also the spleen, and phlegmasia in both legs to a slight extent. Ordered quinine grs. 10 every fourth hour, packed in hot blankets, fomentations to both legs, with a girdle poultice round the loins and hypochondria.

Dec. 16th.—5 30 p.m., restless, flushed, throwing right arm about; awoke cold, with pain in left side, but no distinct rigor, as the nurse *anticipated* it by renewing the treatment of the 13th. Very bad attacks of palpitation, with evidence of some fluid in the pericardium, although no friction sound had ever been detected; cardiac dulness increasing up to the 3rd rib with faint impulse.

Dec. 18th.—Pericardial dulness less, and sounds almost normal; phlebitis slightly better, except over femoral vein; lungs clear; urine more albuminous.

Dec. 25th, 5 30 p.m.—Felt cold, and had another very severe rigor, although freely taking quinine. Temperature, 104·2°, and pulse 130; very bad palpitation. Given 15 grs. quinine, and treatment of 13th renewed.

Dec. 31st.—Fresh crop of 7 distinct enteric spots, fading rapidly and all disappearing in 36 hours.

Jan. 3rd (54th day).—From this day the fever gradually passed away by lysis resembling the true ending of enteric fever, and it was surmised that a recrudescence would not take place. For the succeeding four weeks the condition of the kidneys was peculiar, a state of unusual oliguria persisting. The average quantity secreted by the kidneys from the 61st to the 92nd day, taken in periods of 4 days to correct variation, was as follows:—

—	Period of 4 days	Average Number of oz. per day	Average specific gravity
1.	61st to 64th day - -	16½	1013
2.	65th to 68th day - -	8⅝	1022½
3.	69th to 72nd day - -	5	1026
4.	73rd to 76th day - -	7	1028½
5.	77th to 80th day - -	11	1030¼
6.	81st to 84th day - -	10⅛	1030¼
7.	85th to 88th day - -	12⅛	1026
8.	89th to 92nd day - -	10⅜	1030½
—	32 Days	10 1/16	1026 (nearly)

Albumen was found in the urine on the 63rd, 73rd, 74th, 75th, and 83rd days; hyaline, oily, and granular tube casts on the 78th day, and there was anasarca on the 67th.

During this stage the treatment consisted of vapour baths given in bed every 4th hour, from 20 to 40 minutes; a hypodermic of pilocarpine before each bath, while salvolatile was substituted for stimulants when required. The diet was almost exclusively milk and Kepler's extract of malt, and warm poultices were frequently applied over the kidneys.

On the 75th and 76th days (52 *days after the primary fever had ceased*) the stools, when washed and examined, were found to be composed almost entirely of shreds of intestinal epithelium, which floated in the water, showing a serious state of desquamation to persist nearly two months after the fever.

On the 84*th day*, 9 days later, the stools were still intensely epithelioid after the operation of a castor oil draught.

On the 78th day there was some hæmoptysis proceeding from the apex of the right lung, recurring on the 83rd day. However, this disappeared, and she became convalescent after a severe illness of more than three months.

The more interesting features of the case may be summarised as follows:—

1. The decided evidence of sewage poisoning during the prevalence of a typhoid epidemic. The probability of milk being contaminated, together with inhalation of foul air. Still, however, no light is thrown on the unsettled and obscure questions of predisposition to typhoid fever, or of the immunity of others under the same conditions.

2. The diarrhœa of the fever was aggravated by purgatives taken for the relief of the early symptoms.

3. The abnormal type of the temperature range in the primary attack. The fever abating but little at any time during the twenty-four hours, so that, deprived of the rest and relief usually obtained by the morning remissions in fever, its destructive action on the system was almost incessant.

4. After the true attack was over neither the temperature nor pulse fell to normal, as in the thirteenth week, showing a still living or fermenting state of the fever poison, and that complications were present or impending.

5. The marked periodicity of the rigors of the septicæmia, each occurring at 5 30 p.m.

6. The peculiar absence of any severe local manifestation of the septicæmia. There was the slightest amount of phlegmasia, a small quantity of fluid in the pericardium, and some hæmorrhagic congestion of the apex of the right lung; and these frequently and suddenly varied in degree. The absence of relation between the temperature and these "foci" of septicæmia is exemplified, as contrasting with pyæmia and its prominent metastases. Here we had a true blood-poisoning of great intensity evidenced by rigors, high temperatures of very short duration (not more than twenty-four hours), rapid, weak, pulse, prostration, *and a peculiar state of anxiety, restlessness, hopelessness and fearfulness during each succeeding crisis* which is particularly striking.

The temperature is not symptomatic, proceeding from, or proportional to, any of the local phenomena; but independent, of a blood origin, and of the most erratic nature.

7. These local phenomena—such as they are—are peculiar. Very slight, they vary from day to day. The pericardium, half full to-day, may be empty to-morrow, and fill again without any friction being heard. A little phlegmasia may come and go, or persist, and be of the smallest amount. There may be a slight local bronchitis, or hæmorrhagic pneumonia, or tender and enlarged liver and spleen, but they all quickly pass away, and do not produce the high temperatures, with which they rank as evidences of the blood contamination.

8. The copious evacuation of intestinal epithelium as long as 60 *days* after the cessation of the primary enteric fever, shows the very protracted recovery of the bowel, and the caution necessary in the after administration of purgatives.

9. The condition of oliguria:—The urine was in colour and composition of a fairly normal character. Albumen was never persistent, and on one occasion only were distinct tube casts seen. These, however, may frequently be found in fever with healthy kidneys, washed down, as it were, by the urine during the height of the disease, when the eliminative functions of the kidney are severely taxed.

Despite the supervision of a careful nurse, it is not impossible that urine might be wilfully and secretly voided, and a serious condition thus feigned with success by hysterical or neurotic patients. In the absence of this, and structural disease, the oliguria here seems best explained by attributing it to some obscure "nervous" influence.

With reference to the condition here termed septicæmia, similar states have been vaguely, and with some confusion, called "relapses." For instance, that depicted in Murchison's treatise, and copied from Wunderlich, much resembling the foregoing in its temperature range, is so described. As distinguished, however, from both "true relapse" (which is a fresh fever) and "recrudescence" (or sudden heightening and intensity of the febrile processes), after malignant and protracted cases of enteric fever the blood may become so contaminated from auto-inoculation during the fever, that a condition of true septicæmia is established, and is characterised by the peculiar temperature range and vague train of symptoms illustrated in the foregoing case.

Note on this Fever in Country Districts.—It is a curious fact that the majority of instances of enteric fever which come under notice in country districts exhibit a much greater malignancy and severity than those met with in cities. This may possibly be accounted for in two ways—either that the mildest forms may pass through their several stages unnoticed, or without their being considered severe enough to entail medical attendance, or that living, as most country people do, under much better conditions of health, they are not prone to contract such a disease, unless the poison be one of the greatest virulence and intensity, or they be prostrated by some disease, or other predisposing influence. Under these circumstances an enteric fever will of necessity be a severe one.

LIQUOR CARBOLIC DETERGENS.

Les Nouveaux Remèdes, No. 13, gives the following formula for this well-known preparation:—Coal tar, 1 part; quillia tincture, 4 parts. Mix well together and agitate the solution frequently for eight days. Allow the sediment to form and decant the clear liquid.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—George H. Kidd, M.D., F.R.C.S.I.
General Secretary—W. Thomson, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—Andrew J. Horne, F.R.C.P.I.
Sectional Secretary—F. W. Kidd, M.D.

Friday, February 3, 1893.

Dr. Atthill in the Chair.

Specimens.

Dr. Glenn exhibited for **Dr. W. J. Smyly**—

Sarcoma of Uterus.

Mrs. H., aged sixty. Admitted in January and curetted; the scrapings were examined by Dr. Earl and pronounced to be sarcoma. Patient left the hospital, and for domestic reasons was unable to return for a month. On examination we found a polypus projecting from os, which was removed and sent to Dr. Earl, who reiterated his former opinion. Patient suffered very much from profuse hæmorrhage.

Feb. 3.—Vaginal hysterectomy. No trouble was experienced. The broad ligaments were secured by silk ligatures. Patient is doing well.

Double Ovariotomy.

F. W., aged twenty-two. Three children, one abortion. Enteric fever some twelve months ago. Six months miscarriage since (4 weeks ago). Suffered from intestinal obstruction after the enteric attack. First noticed lump in left side, painful to touch, four months ago.

Menses.—Every four weeks—4–5 days; leucorrhœa slight.

Physical Examination.—Uterus normal in length, but soft. Cervix fissured on left side. Right ovary size of a billiard ball; fluctuating. Left ovary size of a cocoa-nut.

Operation.—Right ovary easily removed.

Jan. 27, 1893.—Left gave trouble, being strongly adherent to descending colon.

Recovery.—Patient's temperature normal till eighth day, when it suddenly rose to 102·4°; no stitch abscess or abdominal symptoms. Ton-
esent; fell next day to normal, and so at present.

Bleeding Fibro-myoma of the Uterus.

Dr. Alfred Smith exhibited tubes and ovaries which he removed from patient, aged thirty-four, who suffered from a bleeding fibro-myoma of the uterus. As a preliminary treatment he curetted away the fungous endometrium the week previous to the operation. Patient doing well.

Mr. M'Ardle wished to know the relative mortality of the removal of fibroids as compared with the removal of the ovaries. His second question was whether the tumours become reduced sufficiently in size after removal of the ovaries to give the patient relief.

Dr. Smith, in reply, said that in laparo-myotomy the mortality was 1 in 4, while in removal of the ovaries and tubes for myomas it was roughly 1 in 10 or 1 in 15. He said the advantages were altogether on the side of castration. He did not know about the reduction in size. But he thought it depended considerably on the nature of the tumour whether it was an œdematous fibroid or a true fibroid.

Notes on a Case of Spina Bifida successfully treated with Iodo-glycerine.

By Dr. M'Cullagh.

The child—a male, now five years and two months old—was not brought under the notice of Dr. M'Cullagh until it was ten months old. The mother brought him, owing to the rapid increase in the size of the tumour. There was then "in the lumbo-sacral region an ovoid tumour 4 inches long, 3 broad, and from 2½ to 3 inches elevated over the surface, the long axis of the oval corresponding to the vertical line; it was sessile, translucent, marked with white bands, fibrous in character, coinciding with depressions on the surface of the tumour as if they constricted it. Contents—ordinary subarachnoid fluid; covering of tumour solely spinal meninges; posterior neural arches absent, represented by rudimentary diverging laminæ; nerves protruded, but were neither spread out nor adherent to the covering. No actual paralysis, both sensation and reflex motion being present, but there was marked atrophy. Dr. M'Cullagh having determined to operate, selected the operation best known in connection with the name of Dr. Morton—namely, after the withdrawal of some of the subarachnoid fluid, the injection of a solution of 10 grs. iodine with 30 grs. iodide of potassium in an ounce of glycerine for the purpose of exciting local inflammation. This operation, however, he modified; finding the withdrawal of the fluid was followed by a convulsion, he found that he obtained quite as much flaccidity in the tumour by laying the child on its face, with the hips raised. Next he found that where he had made the injections completely through the coverings of the tumour the effect was either nil or only slight circumscribed meningitis; whereas in those injections where the penetration was not perfect, as at the margins and the white fibrous bands already mentioned, small patches resembling the islands in skin-grafting were produced. He therefore confined himself altogether to dealing with the bands and the edges of the tumour, with the result that whole tumour was soon covered. He then ceased the injections and painted the surface over with a double strength solution, with the result that the covering thickened and soon assumed the indurated condition which was present when the members saw the child exhibited. Dr. M'Cullagh's conclusions were—1. That the subsequent meningitis developed in many cases treated by iodo-glycerine was due to the intra-saccular injections. 2. That neither they nor the preliminary evacuations of the contained fluid are necessary. 3. That Dr. Morton's method as modified is not only incomparably safer, but gives a result as good as could be hoped for from the most successful plastic operation.

Dr. Atthill said the improvement in this case appeared to commence from the outside, and he inferred that external applications were good. He referred to the intractable nature of such cases and their usually fatal results.

Dr. Frazer wished to know what quantity of fluid was injected at a time, and whether he allowed it to remain in or be drawn off again. And next, where he would commence to inject, and how far the injection should be pushed into the sac.

Mr. M'Ardle referred to a case, which he himself had exhibited, of large spina bifida, which cured spontaneously, but only after a long and painful illness. He said that the treatment which Dr. M'Cullagh had so successfully carried out was certainly devoid of any element of danger. He took it that the injections were made between the outer covering of the sac and the lining membrane of the sac. His experience was, that children with large spina bifida die before reaching the age of 4. He wished to know the time occupied by this treatment and the number of injections, and the length of time that intervened between each injection. He thought that the reduction in the size of the tumours was due to the small opening in the spinal canal being closed up by exudation. He contended that the skin alone would not be sufficient to support the spina bifida, because when the child arrived at an age to make exertion, the tumour would re-appear. It was not the support of the skin, but the closing of the tiny opening, which is necessary, and where the opening was small he thought there was every hope of plastic exudation closing it up.

Dr. M'Cullagh, in reply to Dr. Frazer, said that he usually injected 40 minims at each injection. The only place where he obtained any practical result was at the margin of the sac and along the lines of the white fibrous bands, so that the needle did not enter the sac, but between the walls of the sac. He went on using the injections until two-thirds of the tumour were covered. In reply to Mr. M'Ardle, he said that treatment began on the day on which he saw the child, because of the probable occurrence of perforation and ulceration. Ulceration always occurred in cases where there was no true skin, and the subsequent perforation always proved fatal. The covering of the tumour in the case on exhibition was now of the thick indurated type, resembling connective tissue. The opening of the canal in his case was not a small one, as it extended for nearly the length of two vertebræ and their intervening discs. The tumour was sessile and not pedunculated. He rested his diagnosis on the facts that the tumour was sessile, that the opening into the sac was large, and that there was no pedicle.

Report on 112 *Abdominal Sections.*

By Dr. W. J. Smyly.

It was unanimously resolved that the discussion on this important communication should be posponed until the next meeting of the Section. [The Paper will be found at page 281.]

SECTION OF PATHOLOGY.

President—C. J. Nixon, M.D.

Sectional Secretary—J. B. Story, F.R.C.S.I.

Friday, February 17, 1893.

Mr. F. A. Nixon in the Chair.

Fractures of the Neck of the Thigh Bone.

Prof. E. H. Bennett exhibited three specimens of extra-capsular fracture of the neck of the thigh bone, in which the ordinary method of impaction was reversed, the lower fragment being driven into the upper, and in which also the great trochanter was unbroken. He discussed the recorded cases of this variety of fracture, and the recorded exceptions to the typical extra-capsular fracture, referring particularly to the necessity of admitting forces other than falls or blows on the hip as causes of this form of injury.

Dr. Myles asked Dr. Bennett what constituted an intra-capsular, and what an extra-capsular fracture. Having examined a large number of specimens, he thought these so-called extra-capsular fractures might be classified into those beside the head of the bone and those in the neighbourhood of the great trochanter. To call the latter fractures of the neck is a misnomer; they are rather fractures of the upper part of the shaft.

Dr. Bennett, in reply, stated that intra- and extra-capsular fractures of the neck were each of definite type, and were respectively inside and outside the capsular ligament. So constant are the specimens of each that the text-books are inclined to make one type for each. The interesting point in the three specimens shown was that the great trochanter was not fractured, and also the impaction was reversed.

Adenoma of Stomach.

Mr. Conolly Norman made a communication on the subject of adenoma of the stomach. He exhibited a specimen showing this condition. The patient had been a high-class idiot, thirty-four years old. He was capable enough of complaining, but made no complaint of pain, and presented no symptoms referable to the stomach. There was no vomiting. His last illness was characterised by rapid wasting, without fever. There were sometimes mild attacks of diarrhœa, and there was rapidly increasing debility. *Post-mortem* the thoracic viscera were found to be normal. The liver was somewhat engorged, otherwise the abdominal viscera were normal, save the stomach. There were no enlarged glands. The mucous membrane of the stomach was everywhere thickened, and presented all varieties of polyposis, from large dendriform projections to small sessile wart-like growths. There was no ulceration and no tumour which could have been felt *ante mortem.* Microscopically the dendriform growths were found to consist of tubes and cysts lined with glandular epithelium. Between these tubes and cysts there was a good deal of muscular tissue, which seemed to be derived from the *muscularis mucosæ.* The proliferated tubules were by no means bounded by the *muscularis mucosæ.* On the contrary, even in the peduncle or stem of the dendriform polypi tubes and spaces lined with epithelium existed beneath the *muscularis mucosæ.* In the smaller and sessile projections the epithelial growth did not lie below the *muscularis mucosæ.* The core of the polypi was formed by the *submucosa.* Mr. Norman pointed out that this case differed from the cases described by Brissaud in the youth of the patient, and from Menetrier and Rouillier's cases by the variety in form which the polypi presented. Authors appear to be agreed that the condition is one which cannot be diagnosticated before death, and in most of the recorded cases there had been a singular absence of symptoms referable to the stomach. Menetrier, who has written at some length on the relations of this condition to cancer of the stomach, lays down that in the benign adenoma the *muscularis mucosæ* is never transgressed by the new growth, yet that happened in this case, which did not otherwise present the character of malignancy.

Mr. F. A. Nixon remarked that it was remarkable there should be such extensive organic disease of the stomach without any symptoms. Very frequently, in patients of weak intellect, subjective or objective symptoms are very badly marked. He remembered a case of melancholia in which the patient had a most extensive pleural effusion, and yet he made no complaint, nor had he any dyspnœa.

Mr. Norman, in replying, also remarked on this fact, and said he had met quite a number of patients of this class who died of phthisis and yet had no cough.

Tubercular Disease of Urinary Organs

Dr. H. T. Bewley showed the urinary organs from a man, aged twenty-four, who had suffered from hip-joint disease since he was nine years old, the sinuses not closing till he was twenty-one. In January, 1890, when aged twenty-one, he began to suffer from frequency of micturition, which grew worse till he had to pass water several times every hour. In June, 1890, he passed much blood with his water, which also contained a large amount of pus. The frequency of micturition continued till January, 1892, when, being one day unable to relieve himself when he required to, he suddenly felt something give way, and the desire to micturate ceased. After some hours he passed a large quantity of urine per rectum. After this he passed nearly all his urine in this way. Towards the end of his life the small quantity of fluid that came by the urethra consisted mainly of pus. He gradually got weak and died in December, 1892.

At the autopsy both kidneys were enlarged, the right consisting of a number of cavities with their walls, some of which contained thick green pus, and others dry putty-like material, the left being enlarged, and showing ulceration commencing at the papilla. Scrapings of these ulcers showed many tubercle bacilli. The ureters were thickened, but everywhere pervious. The bladder was small, its walls thin but inelastic, and its mucous membrane disappeared. There were deep ulcers in the prostatic urethra at each side of the veru montanum, from which a sinus, admitting a No. 12 catheter, passed backwards and opened into the rectum about 2½ inches above the anus. Through this sinus the urine had passed into the rectum. The rectum was otherwise normal. Both lungs showed traces of old tubercular mischief in their apices. Other organs normal.

Dr. Bewley called attention to the rarity of such sinuses opening from the prostate into the rectum. It seemed, too, that in this case the sphincter retaining the urine in the bladder had been the muscles of the membranous urethra, as the prostatic urethra must have been full of urine at the time the sinus opened into the rectum.

Dr. Bennett said he saw a case similar to Dr. Bewley's some years ago, except that there was no communication with the rectum. The bladder was reduced to the size of a small pea, and the prostatic portion was dilated. The urine was continually dribbling from the urethra, but there was no act of micturition.

Mr. Nixon asked what was the condition of the mucous membrane of the rectum in Dr. Bewley's case. Healthy urine exercised very little ill effect on living tissues. The same was in a measure true, he believed, of healthy fæces.

Dr. Bewley said that the mucous membrane of the rectum was perfectly normal, except for two very shallow ulcerations. Might it not be possible for a surgeon to open the bladder into the rectum with more comfort to a patient in cases of irritable bladder than into the perinæum.

Tubercular Peritonitis.

Mr. Conolly Norman described a case of tubercular peritonitis simulating malignant tumour. The patient—a male—was a person of unsound mind, who, under the influence of intense persecutory delusions, would not permit proper examination until almost the end. He had no cough. He wasted, became sallow, and finally slightly jaundiced. He attributed these symptoms, as well as internal pains from which he suffered, to the actions of the poisons which he said were being continually given him. When he at last permitted examination nothing was detected amiss with his lungs; he was slightly ascitic, and a large tumour lay like a bar across the abdomen about the level of the umbilicus. This mass was movable. Its right extremity approached closely to the liver, but could be distinctly demarcated from that organ. The diagnosis was formed of cancer of omentum, probably colloid, and secondary to cancer of the stomach. *Post-mortem*, however, it was found that there was no cancerous growth in the stomach or intestines. All the mesenteric tissues were thickened by dense infiltration. The great omentum [exhibited] formed a great mass lying right across the abdomen, smooth and rounded in general outline, between two and three inches thick at the thickest part. Sections under the microscope showed the growth was tubercular. The speaker dwelt on the rarity of this variety of tubercular peritonitis and the difficulties of a satisfactory *ante-mortem* diagnosis, and referred to a similar case recorded by Eve, in which, however, the maximum thickening only amounted to three-eighths of an inch.

Ulcer of Stomach.

Mr. Conolly Norman exhibited the stomach and liver of an old woman who died of consumption. While under the speaker's care she had exhibited no stomachic troubles. The stomach, at a point near the cardia and along the lesser curvature, was firmly adherent to the left lobe of the liver, this lobe being small and hard. The site of the adhesion was marked by a firm old cicatrix in the stomach. The lesion was probably of very old standing, and was interesting as showing how a perforating ulcer of the stomach may be recovered from. There were no indications of any old general peritonitis.

Mr. F. A. Nixon asked was there any explanation for the statement that tubercular peritonitis could be cured by abdominal section and drainage of the peritoneal cavity.

Dr. J. Harrison Scott said he had seen a case of tubercular peritonitis cured by that method.

Mr. Norman said that in this case the involvement of the viscera was very extensive.

The Section then adjourned.

SECTION OF SURGERY.

President—**Edward Hamilton**, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—**R. L. Swan**, F.R.C.S.I.

Friday, Feb. 24, 1893.

Mr. Nixon in the Chair.

Living and Card Specimens.

There were a number of remarkable living and card specimens, amongst them being a successful case of ligature of the innominate, exhibited by Mr. Coppinger. The case excited much interest, and Mr. Coppinger was requested to give a brief account of the operation. Mr. Coppinger mentioned the leading facts in connection with the case, and stated that he reserved details for publication in full at a future date.

Dr. Myles said he did not exaggerate in saying that every member of the Academy was delighted and gratified by the success that had attended Mr. Coppinger's operation.

Mr. Swan said it was of extreme interest indeed to the members of the Academy to have so remarkable a case before them. The case of Mr. Coppinger was a record in surgery not alone in Ireland, but in the whole world.

Mr. Coppinger said he intended to read a paper on the case at some later date.

Mr. W. Thomson said he desired to join in the congratulations that had been offered to Mr. Coppinger upon what he regarded now as a successful result. He took an especial interest in this case, because he himself had gone through all the torture of failure when he thought he had obtained success. In the book which he wrote on ligature of the innominate, he said very emphatically that if such another case came before him he would not hesitate to operate, because he believed the operation was one which must be successful. There were more difficulties at that time in the method of dealing with wounds, and he lost his case by the prolonged use of the drainage tube. In Mr. Coppinger's case there was an opportunity given for the rapid adhesion of all parts of the wound, and to that he attributed the success which had followed. In his own case there had been suppuration in the wound, and it remained open for a considerable time. These conditions were absent in Mr. Coppinger's case, and they had a result upon which they were justified in congratulating him. He would not like to suggest any possibility of failure, but Mr. Coppinger knew that there were difficulties which might arise at this stage. He, however, regarded the case as one of complete success, and he thought it was a matter upon which the Dublin School of Surgery must be congratulated. They had now the first uncomplicated successful case on record, as well as one that had been nearly successful.

Acute Intestinal Obstruction and its Treatment.

Mr. M'Ardle read notes of a case of laparotomy and free incision of the sigmoid for volvulus. The steps in the operation on which he laid stress were—1st, that the bowel should be incised, not punctured; 2nd, that thorough irrigation with warm water should be carried out after incision, not only by passing a tube through the wound in the bowel but by passing a long rectal tube upwards from the anus so as to completely empty the intestinal tract. The third point he laid stress upon was the manner of incising the intestine. Mr. M'Ardle believed that to evacuate the small intestine a transverse incision is best, while the opening should be in a longitudinal direction and in the band of linear fibres opposite the meso-colon when the large intestine is the seat of obstruction. Mr. M'Ardle's reasons for advising this are—(*a*) There is less traction on the sutures when subsequent action of the bowel occurs. (*b*) There is no bleeding from the line of incision. So important is the complete washing out of the intestine that in all cases of complete obstruction with great distension, and when the seat of obstruction is difficult to find, Mr. M'Ardle advises free incision and irrigation, so as to diminish the size of the intestine and thus facilitate the exploration of the abdomen.

Dr. M'Cullagh inquired if the meso-colon was excessively long in the case mentioned.

Mr. Thomson supposed there was no surgeon there who had not from time to time met with some of the cases to which Mr. M'Ardle had alluded in this interesting paper. He thought that in this class of cases the surgeon was greatly handicapped, because in the great majority it was only after undergoing various courses of medical treatment that he was called in. He entirely concurred with the view of Mr. M'Ardle, that they should not wait for the stage of collapse before opening the peritoneum; nor should they accept the doctrine that the peritoneum should not be opened if it was inflamed. He thought they should not be deterred by any of these reasons from opening the peritoneum. In the great majority of cases they were entirely at sea as to what was the cause of the acute obstruction, and when they met with a case of it they were justified at the earliest possible moment in exploring the abdomen in order to find out what the obstruction was. How often did they find that if they could look through the abdomen as through a glass wall they would have operated earlier? In cases of acute intestinal obstruction, as in those of strangulated hernia, he submitted that they could not operate too early. He had heard some strange stories as to the mortality in Dublin of herniotomy cases 40 years ago; but there was no question now that as soon as a strangulated hernia was recognised, it was operated upon, and in an early case they could almost promise that the case would recover. That applied in cases of acute obstruction. If it was a removable obstruction, the sooner it was relieved the better. Any cases that he had seen fatal had been fatal by delay, and not by operation, and everybody knew now that incision into the peritoneum and exploration of the abdomen had become an operation comparatively simple and largely successful. He thought that time was lost by mere puncturing of the intestine, and the only true way to deal with such cases was to incise the intestine and evacuate the contents as quickly as possible. He hoped that all cases of acute intestinal obstruction would have the advantages of surgical advice much earlier than hitherto.

Dr. Falkiner considered that no guide to diagnosis had been given.

Mr. Myles thought they would be all inclined to give a trial to medical treatment if they were about to be operated on. Still he thought that considerable delay was proved by the high mortality that occurs in many cases. He agreed with Dr. Falkiner as to the difficulty of diagnosis. And as differences often arose in the comparatively common cases of strangulated hernia how much more likely were they to be met in cases of obstruction due to causes operating entirely within the abdomen. Yet if they were able to diagnosticate the obstruction he did not think that that fact would be any assistance as distinguishing between medical and surgical cases, because obstruction will not yield except by surgical means. He thoroughly agreed with the point of the great necessity of not merely removing the obstruction, but of emptying the bowel above the obstruction as well. He operated on a patient who was suffering from obstruction for five days, and on opening the abdomen he found a calculus completely occluding the gut, but he did not douch the bowel out above it—a fact which he now regretted. In a case of strangulated hernia he found the inguinal canal patent and in going down into the scrotum he found a volvulus in the hernial sac. He would like to know the cause of tympanites and why it is so fatal in abdominal surgery. In cases of fibroids, &c., he found the patients developed tympanites, and he confessed that the explanations were not sufficient.

Dr. Patteson said he had the privilege of being associated with Mr. M'Ardle in this case, and he thought that the result reflected credit on modern surgery. The necessity of early opening was sufficiently proved by the œdema of the meso-colon, to which reference had been made. He thought the danger of delay was emphasised by the condition of also a sanguineous exudation through the peritoneal cavity, with an over-distended bowel and fœtid fæces, so that in a short time peritonitis would be the usual result. Another point referred to by Mr. Thomson is the utter inadequacy of puncturing for the relief of gas. In this case it was impossible to reduce the volvulus until an incision was made along the longitudinal muscular band. A third point was the efficacy of washing out the bowel by means of a tube passed into the intestine, and by means of a constant flow of water preventing any fæcal matter getting entrance into the peritoneum. He attributed the success of this operation to the thorough flushing of the lower part of the intestine, and where the large intestine is involved the colon could be washed out through the rectum.

Dr. Ball referred to the futility of relieving the intestines by means of a trochar. If it was tried in the dead-house it would be found impossible to evacuate the intestine beyond an inch or two with the trochar. The method of incision was undoubtedly the right procedure. A distended intestine had no more power of recovering its functions than a distended bladder, and unless the intestine was emptied before the abdominal wall was closed the operation had only been half completed.

The **Chairman** said that as regards the behaviour of the longitudinal muscular fibres, in a case of laparo-colotomy he made an incision through one of the longitudinal muscular bands, and it formed so complete a sphincter that it was necessary to divide it again so as to have an opening there.

Mr. M'Ardle, in reply to Dr. M'Cullagh, mentioned that the meso-colon was twisted twice upon itself, so that the meso-colon must have been very long. He thanked Mr. Thomson for reminding him of the position of herniotomy some years ago in Dublin, because it gave him greater hope that operative interference for intestinal obstruction will be carried out more frequently in the future. And if they reasoned from the change of circumstances of 40 years ago, he could hope for nothing brighter or better in the future of surgery of the abdomen than to have laparotomy for intestinal obstruction as successfully carried out as the operation for strangulated hernia. He was afraid that Dr. Myles took him up wrongly, because he would be sorry indeed to think that any department of surgery in Dublin should not be on a level with the best surgery in the world, and it was encouraging for him to know that the results of herniotomy were so perfect. He believed that exploratory laparotomy should be done more frequently. He would not attempt to explain the tympanites. He agreed with Dr. Patteson that the immediate healing and rapid recovery were in a great part due to the thorough irrigation and not alone to the washing out of the intestine, but to washing out the stomach as well. He could not undo the twisting at all until he had taken away three quarts of fœtid discharge. He would bring the question of œdema before the Pathological Section. Mr. Nixon's observation made him still more confident that the incision should be in the longitudinal fibres.

The Section then adjourned.

SECTION OF MEDICINE.

President—Walter G. Smith, M.D.; President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. Montgomery, M.R.C.P.I.

Friday, March 3, 1893.

Dr. H. C. Tweedy in the Chair.

Subjective Ozæna.

Dr. J. Knott read a paper on Subjective Ozæna, in which he detailed the symptoms and treatment of four cases, in each of which the patient was affected by the sensation of the continuous presence of a bad smell. One of these had lasted for several years, and had greatly affected the mind and habits of the patient. It was eventually cured by hypnotism. Two were associated with and apparently dependent on gouty condition, and yielded pretty easily to general treatment. Another was of intermediate severity, and after a rather prolonged course of treatment was cured by nervine sedatives and the use of the continuous current. There were no conditions of organic disease connected with any of the cases.

Dr. N. Falkiner remarked that it is not surprising if we meet with very alarming symptoms when there is a disorder of the olfactory nerve, considering how largely developed the olfactory bulb is in some animals. Odours sometimes give rise to very marked symptoms. He remembered a case in which a linseed poultice applied to the leg caused repeated attacks of asthma. The drug, nux vomica, which Dr. Knott gave one of his patients, through its alkaloid strychnin, has the power of rendering the senses of sight, hearing, and smell more acute.

Mr. Doyle asked Dr. Knott had the patients been put under an anæsthetic and a systematic and complete examination made of their nasal cavities.

Dr. R. A. Hayes said he had met with some similar cases, and pointed out that treatment should be directed to improve the general state of the patient. In true ozæna the patient himself did not suffer, because prior to any very offensive odour being developed the nasal mucous membrane is completely destroyed. He did not think it necessary to put patients under an anæsthetic to make a sufficiently complete examination of their nasal cavities.

The **Chairman** said he was struck with the fact that all Dr. Knott's patients were males, of different ages and different occupations.

Dr. Knott briefly replied.

The Section then adjourned.

SEMMELWEIS AND PUERPERAL FEVER.

Now that due and long-deserved tribute is being paid to the memory of Semmelweis, both on the Continent and in this country, it may not be uninteresting to our readers to append some pertinent remarks of the late John C. Douglas, M.D., L.K.Q.C.P.I., of No. 6 Dominick-street, Dublin, in his reply to the queries of "The General Board of Health," issued early in the year 1820, as to the ætiology of puerperal fever. "*Query* 3—When the disease is epidemic, is it your opinion that it is always contagious? Have any facts come to your knowledge illustrative of its conveyance by accoucheurs or midwives? *Answer*—When puerperal fever is epidemic, I consider it to be really contagious; but, for the most part, only to lying-in women. . . . . I am rather apprehensive that such contagion may be conveyed by persons much engaged in hospital duty at a time when its atmosphere is heavily loaded with effluvium (I have readily perceived by the sense of smell the effluvia of puerperal fever, when epidemic, on entering a ward of the hospital). I have been informed of the circumstance of a pupil in midwifery having remarked, at the period of an epidemic, that several patients successively, upon whom he waited during labour, were seized with this disease, and died. Now it is more than possible that those women might have been infected from the contaminated atmosphere. . . . . but the young gentleman became so apprehensive that he himself had been the medium of conveying the infection, that he resolved not to attend upon any other patient during the prevalence of the epidemic." Without for one moment endeavouring to detract from the noble and independent work of Semmelweis, or to slight his wonderful discovery, we think that the foreshadowing of its ætiology is so clear in the above extract, that it is not without great interest to members of the Dublin School of Medicine to reproduce the foregoing extracts. The remainder of Dr. Douglas' report will be found in the third volume of those most valuable records of clinical medicine—"The Dublin Hospital Reports," 1822.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, February 25, 1893.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Feb. 4.	Feb. 11.	Feb. 18.	Feb. 25.		Feb. 4.	Feb. 11.	Feb. 18.	Feb. 25.
Armagh -	35·1	28·0	0·0	28·0	Limerick -	29·5	22·5	18·2	26·7
Belfast -	21·8	21·4	20·5	23·2	Lisburn -	17·0	12·8	12·8	12·8
Cork -	31·8	21·5	27·0	22·1	Londonderry	22·0	18·8	20·4	7·9
Drogheda	30·7	22·0	4·4	35·1	Lurgan -	31·9	18·7	36·5	9·1
Dublin -	24·6	23·9	28·8	26·7	Newry -	4·0	12·1	20·1	8·2
Dundalk -	50·3	16·8	0·0	16·8	Sligo -	45·7	25·4	20·3	10·2
Galway -	26·4	11·3	7·6	34·0	Waterford -	12·5	32·5	30·0	17·5
Kilkenny	28·3	9·4	18·9	37·8	Wexford -	22·6	13·5	31·6	18·1

In the week ending Saturday, February 4, 1893, the mortality in thirty-three large English towns, including London (in which the rate was 20·3), was equal to an average annual death-rate of 20·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·9 per 1,000. In Glasgow the rate was 23·5, and in Edinburgh it was 20·4.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 24·7 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in ten of the districts to 12·6 in Dundalk—the 12 deaths from all causes registered in that district comprising 2 from whooping-cough and 1 from diarrhœa. Among the 111 deaths from all causes registered in

Belfast are 1 from measles, 2 from typhus, 1 from whooping-cough, 1 from enteric fever, and 1 from diarrhœa. The 46 deaths in Cork comprise 3 from whooping-cough.

In the Dublin Registration District the registered births amounted to 191—102 boys and 89 girls; and the registered deaths to 168—89 males and 79 females.

The deaths, which are 51 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·1 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 24·6 per 1,000. During the first five weeks of the current year the death-rate averaged 30·2, and was 3·9 under the mean rate in the corresponding period of the ten years, 1883–1892.

Twenty-two deaths from zymotic diseases were registered, being 4 over the number for the week ended January 28, but 2 under the average for the 5th week of the last ten years. They comprise 1 from typhus, 2 from influenza and its complications, 3 from whooping-cough, 1 from diphtheria, 7 from enteric fever, 1 from diarrhœa, 2 from dysentery, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital is 15, being 1 over the admissions for the preceding week, but 6 under the number for the week ended January 21. Twenty-two enteric fever patients were discharged, 4 died, and 129 remained under treatment on Saturday, being 11 below the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 11 cases of scarlatina (against 7 for the preceding week), and 2 of typhus: 29 cases of the former and 5 of the latter disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 55 for the week ended January 21 to 48 for the following week, further declined to 34, or 24 under the average for the corresponding week of the last ten years. The 34 deaths comprise 18 from bronchitis and 11 from pneumonia or inflammation of the lungs.

In the week ending Saturday, February 11, the mortality in thirty-three large English towns, including London (in which the rate was 19·1), was equal to an average annual death-rate of 19·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·2 per 1,000. In Glasgow the rate was 26·6, and in Edinburgh it was 21·2.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·1 per 1,000, the rates varying from 0·0 in eight of the districts to 5·1 in Sligo—the 5 deaths from all causes registered in that district comprising 1 from simple continued fever. Among the 109 deaths from all causes registered in Belfast are 1 from typhus, 1 from whooping-cough, 3 from enteric fever, and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 170—99 boys and 71 girls; and the registered deaths to 163—82 males and 81 females.

The deaths, which are 50 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24·3 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 23·9 per 1,000. During the first six weeks of the current year the death-rate averaged 29·2, and was 4·5 under the mean rate in the corresponding period of the ten years, 1883–1892.

Only 11 deaths from zymotic diseases were registered, being 11 under the number for the week ended February 4, and also 50 per cent. below the average for the 6th week of the last ten years. They comprise 1 from measles, 1 from scarlatina, 1 from typhus, 3 from enteric fever, 1 from diarrhœa, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital is 9, being 6 below the admissions for the preceding week, and 5 under the number for the week ended January 28. Twenty-seven enteric fever patients were discharged, 2 died, and 109 remained under treatment on Saturday, being 20 below the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 12 cases of scarlatina (against 11 for the preceding week), and 3 of typhus: 37 cases of the former and 6 of the latter disease remained under treatment in hospital on Saturday.

Only 33 deaths from diseases of the respiratory system were registered, being 20 under the average for the corresponding week of the last ten years. They comprise 19 from bronchitis, 6 from pneumonia or inflammation of the lungs, and 1 from pleurisy.

In the week ending Saturday, February 18, the mortality in thirty-three large English towns, including London (in which the rate was 18·8), was equal to an average annual death-rate of 19·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·1 per 1,000. In Glasgow the rate was 22·0, and in Edinburgh it was 18·1.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 23·7 per 1,000 of the population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in nine of the districts to 4·6 in Lurgan—the 8 deaths from all causes registered in that district comprising 1 from measles. Among the 104 deaths from all causes registered in Belfast are 1 from scarlatina, 3 from diphtheria, 1 from enteric fever, and 3 from diarrhœa. The 39 deaths in Cork comprise 1 from whooping-cough and 1 from enteric fever. The Registrar of Lisburn District remarks—"There have been two or three cases of small-pox in Urban District."

In the Dublin Registration District the registered births amounted to 198—98 boys and 100 girls; and the registered deaths to 199—105 males and 94 females.

The deaths, which are 21 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·7 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 28·8 per 1,000. During the first seven weeks of the current year the death-rate averaged 29·3, and was 4·3 under the mean rate in corresponding period of the ten years 1883-1892.

Twenty-six deaths from zymotic diseases were registered, being 15 over the low number for the week ended February 11, and 5 in excess of the average for the 7th week of the last ten years. They comprise 1 from scarlatina, 2 from influenza, 1 from whooping-cough, 4 from diphtheria, 7 from enteric fever, 1 from diarrhœa, and 1 from erysipelas.

Sixteen cases of enteric fever were admitted to hospital, being 7 over the admissions for the preceding week, and 1 over the number for the week ended February 4. Twenty-three enteric fever patients were discharged, 1 died, and 101 remained under treatment on Saturday, being 8 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 16 cases of scarlatina (against 12 for the preceding week), and 1 case of typhus: 49 cases of the former and 6 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 46, being 13 over the number for the preceding week, but 11 below the average for the 7th week of the last ten years. The 46 deaths comprise 25 from bronchitis, 14 from pneumonia or inflammation of the lungs, and 2 from croup.

In the week ending Saturday, February 25, the mortality in thirty-three large English towns, including London (in which the rate was 19·7), was equal to an average annual death-rate of 19·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·4 per 1,000. In Glasgow the rate was 20·1, and in Edinburgh 18·3.

The average annual death-rate in the sixteen principal town districts of Ireland was 23·6 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·2 per 1,000, the rates varying from 0·0 in nine of the districts to 5·0 in Waterford—the 7 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 118 deaths from all causes registered in Belfast are 1 from scarlatina, 2 from whooping-cough, 2 from diphtheria, 1 from simple continued fever, and 3 from diarrhœa. The 32 deaths in Cork comprise 1 from whooping-cough and 2 from enteric fever. The Registrar of Lisburn District remarks—"Two new cases of small-pox this week. I have strongly recommended re-vaccination, but none of the inmates will consent; all children in the afflicted houses vaccinated."

In the Dublin Registration District the registered births amounted to 198—101 boys and 97 girls; and the registered deaths to 184—78 males and 106 females.

The deaths, which are 32 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·4 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 26·7 per 1,000. During the first eight weeks of the current year the death-rate averaged 29·0, and was 4·4 under the mean rate in the corresponding period of the ten years, 1883–1892.

Only 8 deaths from zymotic diseases were registered, being 18 below the number for the week ended February 18, and 14 under the average for the 8th week of the last ten years. They comprise 2 from whooping-cough and 2 from enteric fever.

The number of cases of enteric fever admitted to hospital was 10, being 6 under the admissions for the preceding week. Eighteen enteric fever patients were discharged, and 93 remained under treatment on Saturday, being 8 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 13 cases of scarlatina (being a decline of 3 as compared with the admissions for the preceding week): 59 cases of the disease remained under treatment in hospital on Saturday, being 10 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered was 46, being equal to the number for the preceding week, but 10 below the average for the 8th week of the last ten years. The 46 deaths comprise 28 from bronchitis and 12 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N. Long.* 6° 15′ *W., for the Month of February,* 1893.

Mean Height of Barometer, - - -	29·604 inches.
Maximal Height of Barometer (on 4th, at 9 p.m.), -	30·218 „
Minimal Height of Barometer (on 14th, at 7 30 a.m.),	28·790 „
Mean Dry-bulb Temperature, - - -	41·7°.
Mean Wet-bulb Temperature, - - -	39·6°.
Mean Dew-point Temperature, - - -	36·9°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	·223 inch.
Mean Humidity, - - - - - -	83·8 per cent.
Highest Temperature in Shade (on 18th), - -	56·4°.
Lowest Temperature in Shade (on 25th), - -	26·0°.
Lowest Temperature on Grass (Radiation) (on 28th),	23·0°.
Mean Amount of Cloud, - - - - -	68·2 per cent.
Rainfall (on 22 days), - - - - -	2·669 inches.
Greatest Daily Rainfall (on 9th), - - -	·480 inch.
General Directions of Wind, - - -	W., S.W., S.

Remarks.

The month now under review was, like February, 1892, wet, cold, stormy, and cloudy. Rain or snow fell in measurable quantity on 22 out of 28 days, and on 4 days the wind reached the force of a gale in Dublin. On the 9th, 14th, 21st, and 26th, atmospherical depressions with minima much below 29 inches were found crossing the British Islands. On the 21st and 26th the centres passed over the south of England.

In Dublin the mean temperature (42·7°) was 0·1° below the average (42·8°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 41·7°. In the twenty-eight years ending with 1892, February was coldest in 1873 (M. T. = 37·9°), and warmest in 1869 (M. T. = 46·7°). In 1886 the M. T. was 39·7°. In the year 1879 (the "cold year") it was 40·1°. In 1888 it was as low as 38·6°; in 1889 it was 40·3°; in 1890 it was 41·5°; in 1891 it was as high as 44·7°; and in 1892 it was 41·3°.

The mean height of the barometer was 29·604 inches, or 0·251 inch below the average value for February—namely, 29·855 inches, and ·794 inch below the mean pressure in February, 1891. The mercury rose to 30·218 inches at 9 p.m. of the 4th, and fell to 28·790 inches at 7 30 a.m. of the 14th. The observed range of atmospherical pressure was, therefore, 1·428 inches—that is, a little less than an inch and a half.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 41·7°, or 1·6° above the value for January, 1893. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·50), the M. T. becomes 42·7°, compared with a twenty-five years' average of 42·8°. On the 18th the thermometer in the screen rose to 56·4°—wind, S.W.; on the 25th the temperature fell to 26·0°—wind, W.S.W. The minimum on the grass was 23·0°, on the 28th.

The rainfall was 2·669 inches, distributed over 22 days. The average rainfall for February in the twenty-five years, 1865–89, inclusive, was 2·150 inches, and the average number of rainy days was 17·2. The rainfall, therefore, was decidedly above the average, while the rainy days were also much above it. In 1883 the rainfall in February was large—3·752 inches on 17 days; in 1879, also, 3·706 inches fell on 23 days. On the other hand, in 1873, only ·925 of an inch was measured on but 8 days; in 1890, only ·802 of an inch fell on but 7 days; and in 1887 only ·541 of an inch fell on 11 days. The rainfall in 1887 was much the smallest recorded in February for very many years. But the record for 1891 is probably unparalleled—·042 inch on 2 days. The nearest approach to this drought was in September, 1865, when only ·056 of an inch of rain was measured on but 3 days. In 1892, the rainfall was 2·119 inches, on 19 days.

There was no snow, sleet, or hail in Dublin in February, 1891, but in the present month snow or sleet fell on 7 days—the 11th, 12th, 22nd, 23rd, 24th, 25th, and 26th; while hail was observed on 6 days—the 7th, 20th, 21st, 22nd, 23rd, and 25th.

The atmosphere was foggy on 3 days—namely, the 26th, 27th, and 28th. The amount of cloud—68·2 per cent.—was in excess of the average—66 per cent. High winds were noted on 11 days, reaching the force of a gale on 4 occasions—namely, the 7th, 9th, 10th, and 14th.

The temperature reached or exceeded 50° in the screen on 13 days, compared with 6 days in 1892, and as many as 14 days in 1891; while it fell to or below 32° in the screen on 5 days, compared with 5 days in 1892, and with 2 days in 1891. The minima on the grass were 32°, or less, on 13 nights, compared with 16 nights in 1892, and 17 nights in 1891. On 3 days the thermometer failed to rise to or above 40° in the screen.

Lightning was seen on the night of the 7th. There was an aurora on the night of the 16th. Solar halos were seen on the 15th and 28th, a lunar halo was seen on the evening of the 28th.

During the first four days of the month, open but changeable and often rainy weather prevailed in the British Islands. At first it was mild also in France and Germany, but intense frost prevailed in the Gulf of Bothnia, whence a high pressure system with its accompanying cold spread southwards and westwards from Northern over Western Europe before the close of the period. On the night of Wednesday, the 1st, thunder and lightning occurred at Belmullet, Co. Mayo, and rain fell heavily at many Irish stations—·440 inch in Dublin and ·480 inch in the Phœnix Park. As the cold spread from the Baltic over Norway in one direction, and to Denmark, Germany, and England in another, the weather became finer and drier. In Dublin, the 3rd and 4th were quite spring-like days.

During the week ended Saturday, the 11th, open but blustering, rainy, and generally unsettled weather prevailed in Western Europe. At the beginning, no doubt, it was cold in England, very cold on the continent, owing to the presence of an anticyclone in those parts; but even at that time mild southerly winds swept over Ireland and Scotland, keeping the thermometer well above freezing point. On Sunday night the shade thermometer fell to 26° at Loughborough, 24° in London, and 21° at Cambridge. At 8 a.m. of Tuesday temperature exceeded 40° at all British Stations, and touched 50° at Valentia Island, in Kerry. A series of depressions, each deeper than its predecessor, now began to approach the N.W. of Europe from the Atlantic. They caused S.W. to W. gales of considerable violence, and frequent and sometimes heavy rains. On Tuesday night severe squalls, with thunder and lightning, hail and rain, occurred over Ireland. The most serious disturbance of the week, however, came in on Thursday afternoon. Its centre lay between the N.E. of Scotland and the S.W. of Norway on Friday morning—the barometer falling below 28·70 inches over that portion of the North Sea. Sleet and snow fell in Scotland, hail in Ireland, and thunder and lightning were again reported from several stations. On Saturday a general reduction of temperature took place, and cold rain and sleet fell in the afternoon. Very intense frost prevailed in the Baltic, over Finland and the North of Russia, all through this week—at Haparanda, on the Gulf of Bothnia, the 8 a.m. readings of the thermometer were + 1°, + 3°, − 1°, − 6°, − 35°, − 37, and − 19° respectively. In Dublin the mean height of the barometer was 29·828 inches, pressure ranging between 30·205 inches at 9 a.m. of Sunday (wind, S.S.E.) and 29·346 inches at 9 p.m. of Thursday (wind, W.). The corrected mean temperature was 46·0°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 44·8°. On Monday and Tuesday the shade thermometer rose to 53·8°, falling on Saturday to 35·9°. The rainfall equalled ·762 inch on six days—·480 inch being measured on Thursday. The prevailing winds were—first, S., then W. Lightning was seen on Tuesday night, and sleet fell on Saturday.

The striking features in the meteorological conditions during the week ended Saturday, the 18th, were—first, the persistence of severe cold in the north of Europe (Scandinavia, Finland, and Northern Russia); second, the very disturbed state of the atmosphere over the North Atlantic to the west and north of the British Islands—four definite barometrical depressions of prime importance having skirted our Atlantic coasts within the period. These cyclonic systems caused, as is usual, very unsettled weather; severe gales were felt at times, rain or hail and sleet fell frequently, and the changes in temperature were sudden, fitful, and large. Sunday was cold and chiefly fine, but some local showers of sleet and hail fell. Monday was mild and changeable. At night a very deep depression approached Ireland, and at 8 a.m. of Tuesday the barometer was down to 28·63 inches at Mullaghmore, near Sligo, and to 28·79 inches even in Dublin. In the course of this day a violent S.E. gale was felt on the east coast of Scotland, while it blew hard from N.W. in Ireland and from W. and S.W. in England. Aurora Borealis was seen on the nights of Wednesday and Thursday. On Friday afternoon a sudden rise of temperature took place. This high temperature was more than maintained on Saturday, which was spring-like in its mildness—dull, however, in England, although bright in Ireland. In Dublin the mean atmospherical pressure was only 29·534 inches, the barometer ranging from 29·848 inches at 9 p.m. of Sunday (wind, W.) to 28·790 inches at 7 30 a.m. of Tuesday (wind, W.). The mean temperature was 44·0°—highest, 56·4° on Saturday; lowest, 34·1° on Sunday. The mean dry bulb readings at 9 a.m. and 9 p.m. were 43·4°. Rain fell on five days, but only to the amount of ·257 inch, of which more than one-half (·143 inch) fell on Wednesday. The prevailing winds were W. and S.S.W.

Winter resumed its sway in the British Islands in the course of the week ended Saturday, the 25th, which began with mild, spring-like weather, and closed with frost and a snow-covered country. The most striking feature in the meteorological record for the period was the passage across the south of England in an east-north-easterly direction of a deep atmospherical depression in the interval between Monday night and Wednesday morning. In the South-east of England the barometer fell below 28·7 inches—to 28·65 inches at the mouth of the Thames—on Tuesday afternoon. The winds accompanying this system were not strong, but large quantities of rain, hail, and sleet fell in most districts. This inclement weather was all the more felt, as Sunday—while dull and rainy, though mild, in Ireland—had been a spring-like day in most parts of England, except the S.W. Bright sunshine was enjoyed for many hours, and the thermometer rose to 59° and even 60° (at Loughborough) in the shade all over the central and south-eastern counties. During the following night temperature gave way quickly and never recovered itself during the remainder of the week, except in the S. of England for a few hours in front of the deep depression already referred to. In Dublin hail, or sleet and snow, fell daily on and after Monday; and on Saturday morning there was a considerable fall of unusually light and powdery crystalline snow at a temperature varying from 27° to 31°. On the night of Saturday a violent snowstorm occurred, followed by rain. The weather was extremely cloudy and dull, except on Monday, Friday, and Saturday. In Dublin the mean height of the barometer was only 29·312 inches. Atmospherical pressure ranged between 29·557 inches at 9 a.m. of Sunday (wind, S.), and 28·916 inches at 7 30 a.m. of Tuesday (wind, N.N.E.). The mean temperature was 39·2°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 38·1°. On Sunday the thermometers in the screen rose to 52·6°. On Saturday they fell to 26·0°. The rainfall (which largely consisted of hail, snow, and sleet) measured ·993 inch, ·390 inch being referred to Wednesday. The prevailing winds were S.S.E. and E.

The last three days of the month were cold, changeable, but for the most part dry. There were sharp night frosts, and a solar halo was seen on the afternoon of the 28th, followed by a lunar halo at 8 p.m.

In Dublin, the rainfall up to February 28, 1893, amounted to 4·908 inches on 41 days, compared with 3·817 inches on 39 days in the same period in 1892, ·714 inch on 16 days in 1891, and a twenty-five years' (1865–1889) average of 4·350 inches on 34·5 days.

At Knockdolian, Greystones, Co. Wicklow, 3·890 inches of rain fell in February on 25 days; and 3·380 inches in January on 18 days. The total fall to February 28th inclusive was 7·270 inches on 43 days.

The rainfall in February at Cloneevin, Killiney, Co. Dublin, amounted to 2·60 inches, on 23 days. The average rainfall for February at this station is 1·543 inches, on 11·6 days. Both rainfall and rainy days were, therefore, considerably in excess this year—in fact it was a very wet month. The greatest rainfall in 24 hours was ·48 of an inch on the 1st. Since January 1, the rainfall was 5·53 inches, on 42 days.

DRUG TOLERANCE.

G. A. HIMMELSBACH, M.D., reports (*Medical News*, Philadelphia, Jan. 7th, 1893) a case of angina pectoris in which the patient took up to 1,000, $\frac{1}{50}$ grain triturates of nitro-glycerine (20 grains) in the 24 hours. The nitro-glycerine had been taken for seven years. Nitrous oxide and oxygen, in the proportion of 1 to 4, were administered instead of the glonoïn and brandy, ℥ii several times daily gave restful sleep. After a week of this treatment the patient returned home, and in another week he died.

LARGE FOREIGN BODY PASSED PER ANUM.

D. T. SHARPLESS, M.D., reports (*Medical News*, Philadelphia, Dec. 17th, 1892) a case in which a dental plate (without teeth) was swallowed, and stuck low down in the œsophagus. It was pushed into the stomach, and under potato diet treatment was passed per anum in forty-two hours. The plate measured $1\frac{1}{2} \times 1\frac{1}{4} \times \frac{5}{8}$ inches.

PERISCOPE.

CINCINNATI HOSPITAL.

We have received the thirty-first Annual Report of the Cincinnati Hospital, which accommodated during the year, in its public wards (exclusive of the accident ward) a daily average of 308·2 patients; and 5·9 of private patients. In a table showing the nationality of those discharged, or who died, it appears that 1,392 males and 762 females were white natives of the United States; 462 males and 196 females were "coloured;" Germans, 443 males and 80 females; Irish, 297 and 126. The Medical Report gives some figures showing the period of day in which deaths occured of 302 males and 111 females. The numbers are:—11 p.m. to 7 a.m., 106, 44; 7 a.m. to 3 p.m., 103, 23; 3 p.m. to 11 p.m., 92, 43; unknown, one of each sex. 73 males and 12 females were treated for uncomplicated enteric fever, with a mortality of 13·7 and 8·3 per cent.

CASCARA SAGRADA USED AS A VERMIFUGE.

M. Stephens gives two cases of the expulsion of tapeworm after the administration of cascara sagrada.—*Repertoire de Pharmacie*, No. 7.

PILOCARPIN IN EPILEPSY.

M. Héré (*Soc. de Biologie*, May 4) reports the successful employment of pilocarpin in the treatment of epilepsy. He used the hydrochlorate concurrently with bromide of potassium.—*Les Nouveaux Remèdes*, No. 11.

ENTERIC FEVER IN BOSTON.

The *N. Y. Medical Record* calls attention to a report in the *Boston Medical and Surgical Journal*, by Dr. A. L. Mason upon 676 cases of enteric fever, admitted to the City Hospital in 1890 and 1891. The reporter points out that it is unsafe to found therapeutical conclusions on a series of less than 600 cases. The mortality of the 676 was 10·4 per cent.; but in 54 consecutive cases it was 0·0, and in groups of 100 the death-rate varied from six to fourteen per cent.; 445 males and 231 females were treated, the mortality of the former being 2 per cent. lower than that of the latter; 65 cases were under fifteen years of age, 523 between fifteen and thirty-five, 88 older. Among children the death-rate was only 3 per cent. Dr. Mason's conclusions are as follows:—1. That in the Boston City Hospital the mortality in typhoid fever from patients admitted moribund and with grave complications is four per cent. 2. That at least three per cent. more die from intestinal perforation and hæmorrhage. 3. That little diminution in the mortality from these causes can be expected under any mode of treatment. 4. That the mortality from renal, pulmonary, and circulatory disturbances, from diarrhœa and pyrexial exhaustion, is about 3·5 per cent. 5. That, excluding deaths from intestinal perforation and hæmorrhage, the mortality among females is 3·4 per cent. greater than among males. 6. That a diminution of 2 per cent. in the general mortality might be expected from the systematic use of cold baths, the reduction being largely in females. 7. That favourable results followed the trial of intestinal antiseptics, but that relapses were not prevented thereby, and that a much wider experience is necessary to determine their value.

THE MEDICAL REPORTER.

We received the first number of the *Medical Reporter*, issued at Calcutta at the beginning of last year, and subsequently the number for July. Comparison of the two shows vigorous growth. Our experience of Indian medical periodicals does not make us sanguine of length of days for our younger brother—but *bona verba!* Let us hope for the best. The contents of the journal are interesting and varied; the price is excessive. Even the attenuated rupee is too much to pay for a single number.

INTRA-THORACIC AUSCULTATION.

Dr. B. W. Richardson (*Asclepiad*, No. 36), describes a method of intra-thoracic auscultation, which he claims as a new departure in physical diagnosis. By applying the ear-pieces of a binaural stethoscope to an œsophageal tube *in situ*, he was enabled to recognise that a roughening was not due to local construction or induration, but existed throughout the length of the œsophagus. In other cases Dr. Richardson has used the same method with advantage. The cardiac sounds were heard better than in ordinary auscultation, but their quality was different, the first and second sounds could be got separately by moving the point of the tube up and down. Various stomach sounds were also heard, and the author hopes that the knowledge gained by experience will eventually render these sounds valuable for diagnosis.

PASTEUR TREATMENT FOR RABIES IN CHICAGO.

To date two hundred and fifty-two persons have applied to the Chicago Pasteur Institute for treatment. The treatment, however, was not given to one hundred and forty-eight applicants, as not reasonable evidence was produced to demonstrate that the animals which inflicted the bites were rabid; one hundred and four received treatment. Following the rule of Pasteur, the patients treated have been classified into three principal categories:—1. Patients bitten by animals recognised and ascertained to be rabid by the proof experiment made in the laboratory, or by the death of other animals or persons bitten by the same animal; 2. Patients bitten by animals recognised to be rabid by the symptoms of the disease; 3. Patients bitten by animals strongly suspected to be rabid. Of the first class there were treated twenty-nine; of the second, forty-four; and of the third, thirty-one—total, one hundred and four. All these are now enjoying good health.—*Times and Register.*

RHEUMATISM, HEART DISEASE, AND CHOREA.

In the *American Journal of Medical Sciences* for May, 1892, Drs. Walton and Vickery publish an investigation into the inter-relations of rheumatism, heart disease, and chorea, founded on 76 cases of chorea jointly studied. They excluded cases due to hysteria, or habit, or organic cerebral disease, There are insuperable difficulties in the application of the statistical method to this subject; but we give their percentage results:—No possible rheumatism or cardiac disease either functional or organic, 47·37; rheumatism without heart disease, 3·94; rheumatism with irregular heart, 6·58; vague pains without rheumatism, 17·10; both heart disease and rheumatism, 13·16; organic heart disease without rheumatism; functional heart disorder, 14·47.

THE KEELEY CURE.

"The daily press announces this week that Dr. Keeley occupied the pulpit of Dr. Talmage last Sabbath, where he announced that but three persons knew the constituents of his cure, and that the secret would never be divulged. This is certainly a strange and new gospel to be proclaimed from a Presbyterian pulpit. The claims of the orator for his secret nostrum, with his avaricious greed for gold, should be paralleled with the everyday work of more than five hundred physicians who give freely, without money and without price, their invaluable services to the poor people who fill to overflowing the hospitals and charitable institutions of New York and Brooklyn. It is reasonable to infer that the preacher stood in with the quack for revenue purposes, in order to lay up for himself some treasures of a very earthy sort. Those who were using the temple for trade and sordid gain were driven from it by the Master. The cure He used on that occasion was a liberal application of a whip of cords. The ratio of cures recorded was one hundred per cent."—*Jour. Am. Med. Ass.*

ARTIFICIAL GUM ARABIC.

Boil 10 kilogrammes of linseed in 80 kilogrammes of sulphuric acid and 100 litres of water. After three or four hours filter the decoction and add four times the volume of the filtrate of alcohol. Wash and dry the precipitate that forms. The product is an amorphous, colourless, tasteless mass, which forms a thick mucilage on the addition of water.—*Les Nouveaux Remèdes*, No. 13.

M'GILL UNIVERSITY.

At the last convocation of this University for conferring medical degrees 56 students proceeded to M.D. and C.M. 291 students were on the rolls in the preceding session, of whom Ontario sent up 115, Quebec 105, New Brunswick 27, Nova Scotia 12, Prince Edward's Island 10, United States 7, Manitoba 7, British Columbia 4, West Indies 3, Newfoundland 1.

M.D.

An enterprising dentist in New York is in trouble for practising medicine without diploma. He writes M.D. after his name, but explains that the letters mean only Mechanical Dentist, and that he never claimed to be a doctor of medicine.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Tabloids of Compressed Dry Thyroid Gland Powder.

Since the treatment of myxœdema by engrafting a lobe of sheep's thyroid gland was introduced by Professor Victor Horsley, encouraged by the experiments of von Eiselsberg in 1890, Messrs. Burroughs, Wellcome & Company have from time to time been supplying for clinical trial various preparations of fresh sheep's thyroid glands.

The firm have come to the conclusion that no mere extractive substances from the glands fulfil the end in view so well as the complete glands themselves. They have, accordingly, prepared tabloids of compressed thyroid gland powder, each of which is equivalent to five grains by weight of a healthy sheep's gland. The process adopted for the manufacture of these tabloids is as follows:—

The glands are received in the laboratory three hours after the death of the sheep. By special request they are supplied attached to a piece of the trachea, from which they are carefully dissected and thinly sliced to discover whether any cysts or other morbid processes exist. They are then carefully dried *in vacuo* at a low temperature, and are pulverised and compressed, together with a little common salt, into five-grain "tabloids." As physiologists are not yet agreed as to whether ferments, globulins, or albumoses are the active therapeutic agent, the firm have resolved, for the present, to use the entire glandular substance in the preparation of the "tabloids."

In myxœdema, sporadic cretinism, exophthalmic goître, and allied diseases, these tabloids are well worth a trial. Clinical experience so far shows that they are as beneficial as the fresh glands, while they can be more regularly and easily administered. Two to four tabloids may be swallowed with a draught of water or other fluid, or they may be given in soup or other liquid food as directed.

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KEPLER ESSENCE OF MALT.

The introduction of the Essence of Malt (Essentia Malti, Kepler) as a substitute for so-called nourishing stouts and ales marks a real epoch in this direction. It is specially adapted for the use of the invalid, the convalescent and weak persons generally, and may beneficially be prescribed in lieu of fermented malt liquors in all cases where its use is permissible.

As a food in fevers nothing can be more agreeable and nutritious than one or two tablespoonfuls of Essence of Malt added to an equal quantity of fresh cream or half a tumbler of fresh milk, and the glass filled with aerated water makes a delicious drink. This combination, containing the proper proportions of fat, carbohydrates and phosphates, forms an ideal food for building up muscle, brain and bone substance. It is an admirable addition to milk, which it agreeably sweetens, and also exerts a decided digestive or solvent action upon the casein. If a tablespoonful of the Essence be added to a glass of milk and the mixture warmed, acid may afterwards be added without producing the heavy clot of casein which is observed when vinegar or acid is added to ordinary milk. It is therefore desirable as an infant food; and a little salt or bicarbonate of soda may be added for this purpose.

Kepler Essence of Malt supplied to the Medical Profession in champagne pints and quarts at 1/2 and 2/- each; retail, 1/6 and 2/6.

KEPLER MALT EXTRACT.

This preparation is rich in nutritive properties and contains a large amount of diastase or vegetable ptyalin (which converts farinaceous food into the assimilable forms of maltose), dextrines and natural phosphates, the force-producing and vitalising properties of barley.

The Kepler Malt Extract may be used with advantage to sweeten porridge, rice, hominy, &c. Upon the addition of the Extract to peptonised milk and starchy foods the diastase contained in the Extract of Malt digests the starch and renders it easy of assimilation. Children like it when spread upon bread and butter. It forms a very pleasant food and is eminently adapted for employment in cases of failing nutrition. Puddings made with the Kepler Malt Extract are easily borne by the most delicate stomach. Its chief triumph has been as a menstruum for administering Cod Liver Oil in the form of solution. This preparation is widely known as the Kepler Solution of Cod Liver Oil in Malt Extract.

The *Lancet* says of Kepler Extract of Malt:—"The best known, and in this country the largest used."

The *Medical Record* says:—"The Kepler Extract of Malt is the best, the richest in diastase."

Kepler Extract of Malt supplied to the Medical Profession in ¾ lb. and 1½ lb. bottles, at 1s. 8d. and 3s. Retail, 2s. 6d. and 4s.

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PART I.

ORIGINAL COMMUNICATIONS.

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ART. XV.—*Preliminary Note on the Uses of Thiocamf.*[a] By GEORGE F. DUFFEY, M.D., Univ. Dubl.; F.R.C.P.I.; Professor of Materia Medica and Pharmacy, R.C.S.I.; Physician to the City of Dublin Hospital, &c.

A NUMBER of antiseptics have been recently brought under the notice of the public and the profession for general, medical or surgical use. In the case of those employed by the surgeon, where the chief action it is desired the antiseptic should exert is a direct or local one, the results of suitable applications properly used are frequently most satisfactory. The efforts of physicians to secure intestinal antisepsis have not hitherto been so favourable. Most of the preparations used with this object, such as solution of chlorine (Yeo), eucalyptus, thymol, creasote, salol, benzoic acid, &c., can have but little if any local effect on the intestinal canal or its contents. Whatever beneficial action they may exert follows their absorption, either in the stomach or upper portion of the duodenum, and their subsequent elimination in an altered form. Any direct or local action on the intestine that such drugs as carbolic acid, salicylate of bismuth, bromol, β-naphthol, benzo-naphthol, naphthalene, betol (salicylate of β-naphthol-ether), &c., can have, should they, even with a protective coating of keratine, reach the intestinal canal from the stomach undissolved, must necessarily be very limited.

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[a] Communicated to the Dublin Biological Club, 11th April, 1893.

I have tried from time to time most of the different drugs I have named in cases of enteric fever, and found that none of them procured complete deodorisation of the fæces or had any marked effect upon the usual course of the disease. The dose that can be safely administered of most of them has to be a small one, and the serious results occasionally following their absorption have to be carefully guarded against. Again, in the case of such a disease as enteric fever, in which a large extent of the terminal portion of the small intestine may be implicated, it is obvious that any local action of an antiseptic in a liquid or a solid form, may be exhausted in a portion of the intestine far removed from the affected region.

The disinfection of a room and its contents can be effectively accomplished only by the disinfectant being brought into contact with every part of the walls, floor, and ceiling of the apartment, and with everything in it. Consequently, the best method at the present time for the purpose is disinfection by such gases as are known to have the power of destroying the vitality of various bacteria. It would seem, therefore, that if a non-poisonous and harmless disinfectant and bactericidal agent could with safety be introduced in sufficient quantities into the small intestines through the stomach in a gaseous state, it would, theoretically, approach the ideal form of an intestinal disinfectant. As an effort in this direction I desire to bring under notice in a brief and necessarily very imperfect preliminary communication a preparation which I believe will prove a useful antiseptic for medical and surgical use. I trust that what I have to say about it will at least induce my readers to give it a trial.

Last autumn I was reminded of a disinfectant that had been devised by Professor Emerson Reynolds, and was described in a paper read by him at a meeting of the Royal Dublin Society on May 22, 1889. I am sorry to say that this disinfectant is by no means so well known as I believe it deserves to be. It was patented by Professor Reynolds, and is made in large quantities by a firm of manufacturers of chemicals in

London.[*] Originally intended, and now largely used, as an atmospheric disinfectant and for the ordinary purposes for which a household disinfectant is employed, it occurred to me that "Thiocamf," as the material is called, would also be an excellent intestinal antiseptic, a useful antiseptic surgical application, and an effective parasiticide in certain cutaneous affections.

Thiocamf, as the name indicates, is a combination of sulphur (θεῖον) dioxide and camphor. It is described by Prof. Reynolds as being a peculiar "liquid which results when sulphur dioxide gas is brought in contact with camphor." At ordinary temperatures the gas alone requires a pressure of more than two atmospheres to liquefy it; but camphor, owing to chemical attraction, can liquefy the sulphur dioxide gas without any pressure whatever. In this liquid are dissolved several known bactericides, amongst them phellandrene—probably the most active ingredient of eucalyptus—and benzoic acid. Thiocamf possesses almost unique properties, for, while it can be preserved without pressure in bottles at mean temperature, mere exposure of the liquid in a thin layer to the air determines the steady evolution of relatively enormous volumes of sulphur dioxide gas from it, charged with the vapours of other powerful disinfectants.

The use of sulphurous acid as a deoxidising antiseptic and disinfectant has long been known; and its administration in the B. P. aqueous solution as a means of arresting fermentation in flatulent dyspepsia, and in sarcinous vomiting, is often followed by excellent results. It consequently occurred to me that if this remarkable preparation could be introduced through the stomach into the small intestine, and the gas then evolved diffused through the intestines, an effective means of disinfecting them might be obtained.

Comparatively recent experiments by MM. Dubief and Bruhl (quoted by Prof. Reynolds from *Comptes rendus, Acad. des Sciences*, t. cviii., 324) show that sulphur dioxide gas can destroy bacteria, particularly the infective forms, when it reaches them.

I communicated my idea to Prof. Reynolds, and he most kindly took it up warmly, and gave me all the assistance which his skill and knowledge of the subject so eminently enabled him to do.

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[*] Thomas Tyrer & Co., Stirling Chemical Works, Abbey-lane, Stratford, London, E.

We had first to consider in what form and in what dose Thiocamf should be given. The choice of a vehicle was limited to fats, the fixed oils, or spirit. Prof. Reynolds proposed the use of pure butter fat—freed from water and salts—as an excipient, and was good enough to make a preparation containing ten per cent. of Thiocamf. This, at my suggestion, was put into gelatine capsules, which when filled contained as nearly as possible ten grains of the mixture. In making the mixture, care has to be taken to melt the fat at as low a temperature as possible, as otherwise it would give off its SO_2. On the 14th October, 1892, I took one of these capsules. Fifteen minutes afterwards an eructation tasting strongly of SO_2 occurred. This was repeated in five minutes, and again at three intervals of fifteen minutes each. No other effect was perceived. At that time I had a patient under my care in hospital who was, I calculated, in the fourth week of a severe attack of enteric fever. She had vomiting, meteorism, and much abdominal pain. I gave her, on October 15th, three capsules of Thiocamf—one every third hour—and four on the following day at the same intervals. She suffered a good deal from eructations after the capsules, but was otherwise somewhat better. I examined the stools and agreed with the nurses' reports that they were much less offensive than they had been. At this time I had not thought of having the capsules coated with keratine solution, with the object of rendering them insoluble in the gastric juice, so that they might pass into the intestine unchanged and be there dissolved by the alkaline liquids in the intestines. I subsequently gave her on the 20th three capsules so prepared for me by Mr. Wells, of 20 Upper Baggot-street, Dublin, the apothecary to the hospital, and found they were not followed by eructations. The case eventually made a good recovery. Another case in which I gave uncoated capsules of Thiocamf, with benefit, was that of a man, aged 32, with phthisis, who suffered from pyrosis. The attacks came on two or three times a day and during the night. On November 7th I gave him four capsules—one every second hour. On the 9th he reported that he had only vomited once since he had commenced the capsules, and that he was sure they had done him good, and that he had now no pain in the stomach, but had had before taking them. In another case of dilatation of the stomach in an elderly man, the capsules gave temporary relief. And in a woman with well-marked alcoholic peripheral neuritis, who had most fœtid alvine evacuations, their odour was removed by the administration of the keratine-coated capsules. At present I am using prepared lard as an excipient for Thiocamf. Theobroma would also be a suitable vehicle.

Although the cases I have adduced in which I have had an opportunity of giving Thiocamf internally are so few—as no cases of fever have been admitted during the past six months into the City of Dublin Hospital, and several of the wards are closed during its rebuilding—I trust I may not be considered to have brought forward the preparation prematurely. I do so in the hope that those who have larger opportunities than I have will try it. So far as I have seen, it has certainly no injurious effect, and from the powerful bactericidal properties of sulphurous acid gas I should suggest its trial in cholera, enteric fever, pernicious anæmia, &c., and in such minor ailments as pyrosis and various forms of dyspepsia, and flatulent distension of the bowels, &c.

My experience of its use in diseases of the skin has been limited to its employment in two cases of scabies. One was that of a girl who had had the disease for three months before admission. It was a very severe case, and complicated with extensive eczema. I applied a 4 per cent. solution in olive oil and succeeded in curing the patient in fourteen days. In the other case a girl, from the same institution and admitted at the same time, who had been suffering for three weeks previously, a cure was effected in five days. She had but little eczema, which delayed the cure in the first case.

From the effects of the B. P. solution of sulphurous acid in parasitic diseases of the skin, I should think that an oily solution of Thiocamf would probably be of use in pityriasis versicolor, favus, and other dermatophytic affections.

Externally I first employed Thiocamf as an application to an extensive bedsore, measuring eight by six inches, situated over the sacral and gluteal regions of a woman who was sent into hospital with paraplegia and who had involuntary evacuation of urine and fæces. On admission the sore was covered with a gangrenous slough, and it emitted a most offensive odour. The application of the 4 per cent., subsequently increased to a 6 per cent., oily solution of Thiocamf quickly removed the fœtor, diminished the discharge, and caused the sore, after the removal of the slough, to assume a clean, healthy appearance. It was healing rapidly, when the patient was attacked with erysipelas, to which she succumbed. I also used the 4 per cent. solution, and with rapidly good results, in the case of an old man with chronic bronchitis, who got two or three furuncles on the nates while in hospital.

With the permission of one of my colleagues, Thiocamf was tried as a dressing in the surgical wards, and by the acting House Surgeon, Mr. C. C. Deane, in the out-patient's room. This gentleman was good enough to give me the following note:—

"Thiocamf (four per cent. solution) was largely used in the dispensary for dressing ulcers and wounds. I found it very beneficial for keeping the parts free from fœtor and in checking the discharge."

Mr. Deane has also favoured me with a detailed note of its use as an application to an irritable ulcer on the external malleolus of a male patient. On admission the ulcer was very painful, the surrounding parts were inflamed and œdematous, and the base of the ulcer was covered with a whitish slough, from which there was an offensive discharge. After two days' treatment by poulticing and rest the inflammation subsided, but the slough and offensive discharge remained. Thiocamf was then applied. The next day, the note states, the slough had completely separated, leaving the base of the ulcer clean and healthy, and now no fœtor. The ulcer filled up rapidly with healthy granulations, and eight days after commencing to use Thiocamf he was able to leave hospital.

A four per cent. solution of Thiocamf in olive oil applied to an ulcerated or abraded surface causes a slight sensation of heat and prickling, which rapidly passes away. If a stimulating effect is required, the strength of the solution can be increased as desired.

In addition to the medical and surgical uses of Thiocamf that I have suggested, its value as a powerful and effective but non-poisonous and non-corrosive disinfectant is great. "There is no other material I know of (says Prof. Emerson Reynolds[*]) save Thiocamf which can give off so large a relative volume of sulphur dioxide gas (the contents of a small six-ounce bottle can afford over 20,000 cubic centimetres, about 1,250 cubic inches) without any special treatment, save exposure in a very thin layer on an old tray or dish to the air of a room to be dis-

[*] *Loc. cit.*

infected.[a] Further, one ounce of Thiocamf shaken up with a quart of water forms a powerful disinfectant for ordinary purposes, such as sprinkling over various matters, purifying drains, &c.; while a still more dilute solution (one ounce to a gallon) can be used for soaking clothes which have been in contact with infected persons."

The residue of Thiocamf has a pleasant aromatic odour, and when rubbed to powder and well stirred with two gallons of water containing a little washing soda may be used with soap for washing floors, woodwork, clothes, &c.

A dilute solution of Thiocamf in spirit is supplied in bottles with sprinklers. This is the best and most convenient preparation I know of to deodorise fæces, and is largely used in my wards for that purpose. It also forms, in the proportion of a dessert-spoonful to a quart of water, an agreeable non-poisonous antiseptic liquid in which to rinse clothes, the hands, &c., in infectious cases.

ART. XVI.—*A Case of Myxœdema Successfully Treated by Injections of the Extract of Sheep's Thyroid.*[b] By WALLACE BEATTY, M.D., Senior Assistant Physician to the Adelaide Hospital.

CASE.—Mrs. M., aged fifty, was admitted into the Adelaide Hospital under my care on March 6th, 1890. She presented the symptoms of myxœdema well marked. Her face had a puffy swollen appearance; her eyelids were swollen; she had a circumscribed blush on both cheeks; the alæ nasi were thickened and the nose was broadened; her lips were thickened; the tongue seemed too large for her mouth and was protruded sluggishly; the mucous membrane of the oral cavity was pale and thickened; she had lost several teeth, and those which remained were loose and carious; her utterance was slow and thick; the thyroid gland could not be felt; there was a marked swelling above the clavicles in the inferior triangle of the neck; the hands were somewhat enlarged; she was clumsy in her movements; the extremities were inclined to be cold; she complained of chilliness and the temperature was subnormal; the bowels were constipated; the abdomen was distended and the skin of the abdomen was thickened; the skin on the front of the chest had a waxy swollen appearance; the skin of the back was shiny, dry, and desquamating, and the skin over many other parts of the body was dry and scaly; the axillæ were destitute of hairs; the heart sounds were feeble and the pulse slow; the urine was pale in colour, of low specific gravity; there was no albumen or sugar present, and no tube casts; her mental condition was dull and her memory was impaired. Her past history was as follows:—

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[a] The method of disinfecting a room by means of Thiocamf is described in Dr. J. W. Moore's "Text-book of the Eruptive and Continued Fevers" (Dublin: Fannin & Co. 1892. Pages 34 and 35); and in a pamphlet issued by Messrs. Tyrer & Co., from which many of the particulars in the foregoing notes are derived, and which includes a reprint of Prof. Emerson Reynolds' paper previously referred to.—G. F. D.

[b] Read in the Section of Medicine of the Royal Academy of Medicine in Ireland, on Friday, April 14, 1893.

Except for an attack of rheumatism twenty-four years before she was quite well until the climacteric period four years ago. She then noticed swelling in the abdomen and legs, and subsequently in the face and eyelids. She found by degrees that her hands were becoming clumsy, and that she had a difficulty in putting on her gloves. She felt a stiffness in the legs when walking. She noticed her mental condition becoming impaired; she felt dull and lacking in memory. Inquiry into her family history revealed nothing of importance.

I am indebted to Mr. Fullerton for keeping a careful record of the case.

During her stay in hospital—from March 6, 1890, to May 23, 1890—I tried the following remedies: arsenic, pilocarpin, iron, and strychnin; also a course of massage for some weeks. She left hospital *in statu quo antea.*

Having succeeded in removing the symptoms of myxœdema in a lady whose case I recorded in the *British Medical Journal* of March 12, 1892, I readmitted Mrs. M. into the Adelaide Hospital in order to try the effect of hypodermic injections of the thyroid gland of the sheep. She was readmitted on February 23, 1892. Her symptoms were much the same as when she was in the Adelaide Hospital before, except that she was much more tottering in her gait, more dull mentally, and she complained of a greater loss of memory; her feet had become larger and more clumsy. The blood was specially examined; I found no increase in the number of white corpuscles; the red were reduced in number, 3,880,000 being the average number per cubic millimetre. Dr. Purser estimated the amount of colouring matter and found it 80 per cent. of the normal; thus, the number of corpuscles and the amount of colouring matter were reduced in about equal proportions, and so the condition of the blood was that of simple anæmia. The knee reflexes were completely absent.

Mr. Swanzy examined her eyes and ears, and reported as follows:—"*Eyes:* The pupils are of medium size; they react sluggishly, and but little to light; the pupillary reaction on accommodation is prompt and sufficient, slight myopia, vision normal, colour vision normal, fields of vision normal, ophthalmoscopic appearances normal. *Ears:* In each the membrana tympani is normal. *Left ear:* Medium whisper 1–5 metres; watch in contact. *Right ear:* Medium whisper 1-5 metres; watch at one inch from the ear; tuning fork is heard from vertex in each ear, but better in the right ear; this state of functions shows some imperfections of hearing, due, I am of opinion, to defective function or actual disease of the labyrinth in each ear."

I began the injections of thyroid-gland extract on March 4, 1892, and gave the last injection on April 2, 1892. The patient was given, in all, the extract of about two glands.

The improvement which followed the injections was very marked and rapid. The general appearance of the patient improved rapidly, the temperature took a somewhat higher level, the amount of urea—before deficient—increased, the tongue became of natural size, the transverse measurement of its base when protruded its farthest was 5½ centimetres at the commencement of the treatment; after three injections, which were given within six days (and which corresponded to the entire extract of both lobes of one gland), its transverse measurement was 4½ centimetres. The improvement continued steadily, so that for some time before she left the hospital (July 6, 1892) she had quite lost the appearance of myxœdema. Unfortunately, two of my injections, the fourth and the ninth (last), were followed by suppuration. The first abscess healed in a few days after incision by my colleague Mr. Heuston, so that I was able to give the fifth injection fifteen days after the fourth; but the ninth (the last) injection, which was given in the left arm, was followed by phlegmonous erysipelas requiring free incision; after weeks of pain and discharge the arm recovered. I am indebted to Mr. Heuston for his help in the case. I gave the patient a few doses of the thyroid extract by the mouth before she left the hospital; I cannot say whether it was of benefit, as she had no symptoms of myxœdema when I commenced the administration of the extract by the mouth; I gave it to prevent a relapse.

She left the hospital promising to come and see me once or twice a week, but she never returned, and I have been unable to trace her whereabouts. She dreaded, I think, any further treatment on account of the unfortunate occurrence of the abscesses.

It is interesting to note that after the fourth injection the knee reflexes, before absent, were present in a slight degree, and that the left pupil reacted to light, the right remaining as before. I had an opportunity of examining another case of myxœdema recently; in that case the knee reflexes were present and normal.

Some hours after each injection the patient complained of pain at the site of the injection, once of pain in the head, and several times of aching in the limbs. Very severe left intercostal neuralgia with exquisite tenderness of the nipple of the left breast preceded the formation of the first abscess, which formed within the left scapula at the seat of the injection which caused it. This neuralgic pain was probably due to the pressure of the abscess on the intercostal nerves behind.

I prepared the extract of the sheep's thyroid in exactly the same way and with the same care as in my first case. The amount of extract which I extracted from the two lobes of one thyroid was from fifty-five to sixty minims.

The extract was made according to the directions given by Dr. Murray, with one or two unimportant modifications. The method adopted was as follows:—The lobes of the thyroid gland of a sheep were removed immediately after it was killed, the instruments used having been rendered aseptic. The surrounding fat and connective tissue were removed from the lobes. Each lobe was cut up into small pieces on a glass dish, the glass dish having been previously washed with a 1 to 20 solution of carbolic acid. The pieces were put into two sterilised test-tubes, one for each gland, and over them was poured, in sufficient quantity to cover them, a solution containing a ½ per cent. solution of carbolic acid and glycerine in equal part. The test-tubes were left in a cool place for twenty-four hours. The contents were then strained through fine muslin into a glass-stoppered bottle, and the muslin squeezed so as to express as much liquid as possible; the muslin was previously placed for a few minutes in boiling distilled water, and the bottle was also previously disinfected.

It may be of interest to give the subsequent course of my first case of myxœdema—that recorded in the *British Medical Journal* of March 12, 1892.

The lady remained remarkably well from February, 1892, to May without any injection. She then began to feel a return of the symptoms—viz., slight mental dulness, and some return of swelling of the eyelids. These symptoms disappeared at once after a few injections. She remained well for two months, when, owing to a threatened return of the symptoms of myxœdema, she was given in the end of July and beginning of August a few injections which were followed immediately, as before, by disappearance of the symptoms.

Some of the injections (given after the writing of my paper) were followed by alarming symptoms. A short epileptiform attack followed one injection; severe, indeed agonising, pain in the lumbar region followed two injections; this pain lasted only about two minutes. After another of the injections a weak feeling came on immediately, followed by agonising lumbar pain and rapid swelling of the upper lip, face, and eyelids; the swelling was very obvious within five minutes after the injection, and made the patient look markedly myxœdematous; the puffiness of the face subsided gradually in the course of about two days.

In the middle of August she went to the country for change. When I saw her next in October she was quite free from the symptoms of myxœdema, but complained of pain and swelling in her abdomen. I was distressed to find, on examination, a malignant tumour of the omentum. She died on February 28, 1893. The tumour had grown with extreme rapidity and caused her death.

Dr. J. K. Barton sent me an account of a case of myxœdema which has been recently under his care at Mentone. It was that of a lady, aged fifty-eight, who dated her earliest symptoms to a great sorrow three years previously. When she came under Dr. Barton's care in January, 1893, she presented all the symptoms of myxœdema. Dr. Barton gave her injections of the extract of sheep's thyroid gland. These injections were followed by a marked improvement in the lady's condition.

Dr. Barton sent me a report of his case, but unfortunately this report did not reach me in time for the Council meeting of the Medical Section last week, and so it was not put on the notice paper. It will, however, be found at page 431.

Art. XVII.—*A Fatal Case of Blood-poisoning after Extraction of a Molar Tooth.*[a] By John J. Burgess, F.R.C.S.; late Assistant-Surgeon to the Richmond Hospital.

Although the results of minor operations are so unvarying in their tendency to a favourable issue that we may predict with as much certainty as is possible for their future an entire absence of danger, yet cases, very few I am happy to say, occur now and then in practice in which the order of things is reversed, which, from insignificance, as far as peril to life is concerned at their onset. develop an extreme malignancy, and sometimes destroy life in individuals whose constitutions have hitherto been robust.

I deem it a duty to record a case of the latter class; its interest lies in this fact, that the pyæmic symptoms arose from what is a most exceptional cause, and its history brings to our minds that however trivial the injury be, if attended with an open wound. there is an element of danger which we should not lose sight of.

Hundreds of teeth are extracted every day, some with every accessory of modern dental skill to diminish the slightest risk: others by our residents in the various hospitals, when very often muscular power replaces science, yet the result is nearly always the same—a few days tenderness and swelling of the gums, a slightly fœtid discharge for a week, and nothing remains except perhaps, a feeling of gratitude to the operator. However, to show this rule has an exception, I shall claim your attention for a few minutes with the record of the following case:—

Case.—On the 3rd November, 1885, a gentleman, aged twenty-seven, clerk in the Port and Docks Board, consulted me after suffering from what he supposed to be neuralgia from a decayed tooth. He had had the second molar tooth of the left lower jaw removed three days previously; there was no abscess at the fangs; the extraction was without difficulty; and temporary relief was experienced. At the time he suffered from great pain, which came on one day after the removal of the tooth; the seat of the pain was around the site of the extraction. The gum was swollen and brawny in the situation of the three lower back teeth on the affected side, with hardness outside corresponding. I advised him to go home and use hot fomentations, and called to see him the following day (4th Nov.). He was then in great pain, the swelling of his gum had increased, with the usual discharge of glairy mucus.

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[a] Read in the Section of Medicine of the Royal Academy of Medicine in Ireland, Friday, April 14, 1893.

I freely incised the swelling both on the surface and deeply, with the result that there was free bleeding, but no pus. Two days afterwards (6th Nov.), when I next saw him, there was no abatement of the pain, and the swelling had spread to the submaxillary space. There was no feeling of fluctuation anywhere, so giving him opium to relieve the pain, I bid his wife continue the hot stupes.

The next day (7th Nov.) it was evident he had developed cellulitis on the left side, as the brawny swelling had extended forwards, indurating the fascia over the triangles of the neck. He would not consent to any incision being made except through his mouth, so having no other means of giving relief I drove a bistoury through the gum, along the maxillary ramus, into the tissues of the neck, avoiding, as well as I could, the facial artery. The bleeding was, at the time, rather alarming, but, as before, no relief was given. The cellulitis spread over the left side of the neck, with a moderate temperature, never exceeding 103° F.

As no surgical interference of the ordinary kind was permitted, and as incisions through the mouth gave great suffering but no relief, I had to satisfy myself with the ordinary sedative treatment, giving him as much nourishment as he would take. On the eighth day, before I saw him, he had a feeling as if "of being choked, followed by something giving way in his throat," after which he coughed up a quantity of pus; this gave him great relief, insomuch that when I saw him in the afternoon (15th Nov.) he stated that he felt nearly well. The cervical induration rapidly disappeared; his appetite and spirits returned, and, except for looking rather pale, he was nothing the worse for what he had gone through.

By my advice he was going to spend a few weeks with his parents near Dalkey, when, on the eve of his departure, about a week after the subsidence of the acute symptoms, I was sent for by telegram to see him before he undertook the change to the country. He had been perfectly well for the above time, but awakened that morning with a feeling of intense soreness of the throat. On examination he presented the common diffuse sore throat, with injection of the soft palate and tonsils, without marked enlargement of the latter. Accordingly I bid him stay where he was for a few days, and prescribed an astringent gargle.

On the following day I was rather surprised to find he had developed commencing facial erysipelas (18th Nov.). This, of course, negatived all thoughts of his removal. The facial erysipelas, as usual, continued for five days; without implicating the scalp it was very severe, and accompanied by what I find unusual, an almost continuous temperature of 105°. When the erysipelas declined, on the 22nd Nov., I was rather astonished to find the temperature had not decreased in any marked way, being still 103°.

The following day (23rd Nov.) it was still the same, with a rapid pulse; he complained of nothing except weakness, so failing to find any other cause for the symptoms I then did what I neglected before, on account of nothing pointing that way—made an examination of his throat—and then, to my consternation, found it covered with a dry, whitish, yellow membrane, lying on the pharynx, base of tongue, soft palate, and tonsils. There was no cervical glandular enlargement, nor albuminuria; except for what I have before alluded to—the feeling of prostration—he was able to take nourishment well; his intellect was clear, and, considering his condition, he was rather cheerful.

As in my mind, at the time, there was no mistaking the then gravity of the case, I asked his people for the assistance of some other medical man, and, at their wish, my friend, Dr. Michael Boyd, joined me, and gave me his valuable assistance each day. We attended to his strength, by giving him eggs, milk, &c., keeping his throat sprayed with sulphurous acid, and the room well ventilated, at the same time cleaning twice daily the membrane from the palate and pharynx. There was at no time any glandular enlargement, nor albumen in his urine, but what appeared like membrane was seen at the anus.

On the ninth day (1st Dec.) the membrane began to show spots of healthy mucous tissue, and in the following days disappeared into bands which hung from the palate. About this time, when everthing seemed to be going on well, the temperature keeping low in the day time, and going up to 102° at night, he had some rigors; these at first were followed by no symptoms of further mischief, but just when the throat had cleared we noticed there was hardness along the internal saphena vein in the left leg. This complication gave him some pain, and made him restless. However, the acute symptoms disappeared by the aid of hot poultices in a few days, although the vein still continued hard. We then thought there was an end to our labour, when we found the membrane had come back to its old position, and covered the palate and pharynx as previously it had done a fortnight ago. The temperature took the same range, 103°, with a half degree higher at night. The pulse averaged 120, rather weak. The membrane after a few days began again to peel off, but the temperature and pulse remained unchanged; rigors now became more frequent, generally two in the day, without sweating.

At this period there appeared spots of redness, which were immediately followed by collections of pus; these we at once aspirated, one at right shoulder; a second at the right forearm; a third corresponding to the tuberosity of the right ischium; a fourth above the left knee; and last one on the left leg, corresponding to the site of the previous phlebitis. After this there was a sudden amelioration of all the symptoms; the rigors ceased; the pulse showed down; the temperature was normal, except at night, when it ascended to 100°; the appetite had increased, and, in short, everything seemed to point to a rapid recovery, when, suddenly, we were again called to see the patient, about four days after giving up attendance, and found him in wild delirium, from which he sunk into deep coma, with Cheyne-Stokes' respiration. He died the following day from what was evidently secondary abscess at the base of the brain.

It is a curious fact that on looking over the literature bearing on this subject, of three fatal cases of a similar nature after the removal of a tooth it was the same tooth as in mine (the second left lower molar) which was extracted.

M. Bouyon, in the *Courier Médical*, 1873, mentioned the case which came under his notice of a countryman who had this tooth removed by a blacksmith. The man developed periostitis, and died of septic infection in a very short time.

Zahharvich had two cases of perfectly healthy medical men from whom this tooth was removed, both of whom died from ostitis and osteomeylitis, one on the sixth, the other on the tenth day.

Goodhart, of Guy's Hospital, records a case of fatal pyæmia from a non-extracted tooth, the abscess involving the inferior dental canal; the pus passing thence to the articulation filled the sphero-maxillary fossa, and was followed by intercranial suppuration.

In addition to these, and bearing on the subject, is the case of Mr. Baker, of our city, whose patient developed pyæmia from abscess in an upper molar tooth which was not extracted, followed by secondary abscesses over the body, but which he succeeded in bringing to a favourable termination.[a]

M. Foucet, at the Surgical Society of Paris, 1886, brought forward a case of an alcoholic who died of pyæmia following a hard swelling at the angle of the jaw due to a bad tooth.

I do not propose to dwell on the treatment more than to say I believe the impossibility of making incisions in the cellulitis stage beyond prolonging it for a few days did no harm, as he was a week free from suffering—*i.e.*, from the bursting of the abscess into the œsophagus until the invasion of the erysipelas.

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[a] With the assistance of Mr. Baker, to whom I am deeply indebted for the assistance he gave me in writing this paper, we found recorded thirteen cases of a fatal termination—ten in addition to the above. Of the latter, one died of tetanus, one of hæmorrhage, six of meningitis from pyæmia, and two to exhaustion from blood-poisoning without cerebral symptoms. The record of these cases is very interesting, and is to be found in Professor Müller's (Berlin) book.

The treatment of the erysipelas deserves no mention except as regards the high temperature of 105°. For this no antipyretics were used, because from my experience no drug has any power more than, I may say, momentary to keep down an essential temperature; and the one thing which I believe does good—the cold bath—was not tried for obvious reasons.

In the membranous stage the usual course was adopted, giving internally plenty of stimulants.

I may add, the fatal issue was not precipitated by movement, as the patient was allowed merely to be lifted out of bed into an easy chair when considered convalescent.

I now come to what is a subject of greater interest—the membranous exudation which came on in this case when matters began to look bad for the first time.

I purposely refrain from using the word diphtheritic, for reasons I will explain.

Both before this case and on many an occasion since, I have seen this same condition of throat varying in intensity—in milder cases from an exudation like clotted milk, which readily peels off, leaving an unabraided surface, to a condition in which the membrane (of a yellowish white colour, resembling in its consistence parchment) can only be detached with difficulty, leaving a bleeding surface at its site. In the former class of cases the tongue is generally moist, in the latter always dry and attended by profound adynamia. In neither is there albuminuria nor glandular enlargement about the neck.

This is a state of affairs which I find many men call by the misleading name of diphtheritic throat, having no analogy to true diphtheria but in the fatality which attends too many cases in which it is a symptom due, not to the pernicious influence of a spreading membrane, but to some antecedent cause still in progression of which it is merely a symptom. It has these characters which distinguish it from the disease of Bretonneau:—

1. It is non-contagious.
2. It has no tendency to laryngeal or nasal implication.
3. It is always secondary, requiring for its development some acute disease, such as enteric fever or erysipelas.

From my own experience I believe a period comes on in protracted acute disease, whether it be pneumonia, pleuritis, or fever, when we may look for the sign which is a danger signal beginning to develop in the soft palate and pharynx; and its significance seems to me to point to this—the patient's strength, which has withstood the shock up to the present, is now rapidly failing, and, unless supported by a stimulant line of treatment, an unfavourable termination is imminent.

I am aware this throat is well known to us all, but I simply wish to draw attention to it, because we so often hear of the diphtheritic affections. Now, diphtheria, I am happy to say, if we exclude croup, which has very little in common with it, is a disease we do not see much of. Sporadic cases are mentioned from time to time which may occur to several individuals in a badly-drained house and be very fatal, but which are non-communicable to outsiders visiting them, differing in this absence of contagion, and with extension of the disease to the nasal fossæ or larynx from the true disease, and bearing a greater analogy to malignant typhoid than to diphtheria.

I consider the word diphtheria or diphtheritic, which I presume means the same, except in its pathological sense, to be used too indiscriminately from the ordinary sore throat so common to numbers of people in the spring to the secondary remote effects of a blood poison, and I believe that the disease diphtherite, as described by Storr, Bretonneau, Trousseau, and Empis, does not exist in our city, but, like several epidemics of ages gone by, it has succumbed to the advance of modern hygienic science. I am conscious many will say that cases such as I have described are totally distinct from true diphtherite as to the membrane; but, excluding the aphthous throat of late phthisis, I submit the membrane in the above is identical in appearance, and an observer like Silas Cohn practically includes them in his description of diphtheria when he says—"Membranous throats are often followed by paralysis similar to the true disease, and fatal by membranous laryngitis."

Let me not be misunderstood as denying the existence of diphtheria. My object simply has been to draw attention to cases for a scientific motive which too often get the above name, without any further claim than a membrane existing on the palate, to a disease which has ravaged Europe in past times.

It may be suggested that an easy solution to the difficulty of diagnosis would be the discovery or not of the Klebs-Löffler bacillus by microscopic examination of the membrane. Even if it were definitely fixed that this organism was the cause of diphtheria, there still remains the possibility that its existence in the air we breathe might determine its presence in any throat, like the case mentioned by Oertel in which he found these microbes in abundance on a membranous throat, due to the irritation of strong ammonia. Again, we have the statement of Lennox Brown that they are frequently found on perfectly healthy throats before their destruction by the scavenging action of the white corpuscles. Under these circumstances its discovery would be in no way conclusive, so I eliminated it as a means of determining the difference from a specific and a non-specific cause.

In conclusion, I confess this paper has been written with a certain amount of reluctance, as I know it is more usual, I am happy to say, to record before the Section our successes than our failures; but I submit, even from a description of this disastrous case, there are many things to be learned, the least of which perhaps is not to underrate the future gravity of a case as I did in this instance from an apparently unimportant beginning.

ART. XVIII—*On the Removal of the Gravid Uterus by Abdominal Section.*[a] By THOMAS MORE MADDEN, M.D., F.R.C.S. Ed.; Obstetric Physician and Gynæcologist, Mater Misericordiæ Hospital, Dublin.

IN a former volume of the Transactions of this Academy I reported a case in which I had been obliged to remove the gravid uterus. In the present communication I desire to submit the notes of a recent case of the same kind, and to offer some general observations on such operations.

In the last case referred to, in which I was compelled to perform a Porro-Müller's operation, the patient was a woman, aged thirty-three, two months pregnant, and of well-marked carcinomatous cachexia, suffering from a fast-growing uterine tumour, which, from the intense suffering it occasioned, the rapidity of growth (it having so developed from the time it was first recognised, only three months previously, so as to fill the abdominal cavity, and cause such dyspnœa as to prevent her sleeping save in a sitting position), as well as from the extreme emaciation and characteristic cachexia, I diagnosticated as probably malignant. The symptoms being most urgent, and the patient being apparently *in extremis*, it was decided as a forlorn hope to give her whatever chance the removal of the uterus might afford. From the time of her being brought into hospital until she was placed on the operating table the patient was in a condition of extreme prostration from loss of rest, continual pain, and inability to take food, and was apparently kept alive by the free administration of stimulants. In that operation, which was performed on April 13th, 1893, I had the able assistance of my colleagues, Drs. Lentaigne and Coppinger, and also of Dr. A. Smith, of St. Vincent's Hospital. The enormous tumour here shown [tumour exhibited] growing from the fundus was partially gangrenous, and owing to extensive adhesions there was considerable difficulty in its removal and in the ligation of the ligaments. The operation was therefore necessarily prolonged; and though she recovered from the immediate shock, and for a couple of days gave hope of recovery, her condition of extreme prostration was never completely recovered from, and she succumbed at the end of a few days.

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[a] Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland on Friday, April 21, 1893.

I am indebted to my colleague, Professor M'Weeney, for the following brief note of the pathology of the growth:—

> "The tumour, which was of enormous size, grew from the fundus uteri, and consisted of two parts. The apical portion—*i.e.*, that furthest removed from the uterus—was in a state of sloughy degeneration, and had softened down so as to form a sort of cyst, the wall of which was composed of discoloured and unhealthy peritoneum. This portion passed gradually, and without any definite line of demarcation, into the proximal or basal portion of the growth. The latter consisted essentially of unstriped muscular fibre and connective tissue, associated in varying portions. The most deeply-situated portion had undergone mucoid degeneration, so that the middle of the tumour was channelled with numerous inter-communicating cavities, filled with glairy fluid. Hence the growth may be regarded as a monstrous, non-pedunculated fibroid."

The excision by abdominal section of the gravid uterus, above the cervix, which is generally known by the name of the operator, Professor Porro, of Pavia, by whom it was first successfully accomplished in 1879, though previously performed by Dr. H. Storer, of Boston, was originally designed as an obstetric operation in lieu of the Cæsarean section. It has been subsequently considerably modified and improved in its technique by Freund, of Breslau, and Müller, of Berne, to whose operation, with some further modifications, I have myself resorted in three cases of pregnancy complicated by urgent symptoms arising from malignant, or supposed malignant, disease of the fundus or body of the uterus.

Premising that the Müller-Porro operation consists essentially in making a large abdominal wound, with the view of excising the gravid uterus and securing the cervix by *serre nœud*, ligature, clamp, or otherwise, previous to opening the cavity and removing the child, I may now describe the steps of this operation as adopted in the method followed by myself in the cases referred to. The preliminary measures—directions concerning arrangement of operating room, position of patient, choice of anæsthetics, and antiseptic precautions necessary in a case of abdominal hysterectomy—being identical with those in ovariotomy, need not be here detailed. Taking it for granted, therefore, that these preliminaries have been properly carried out, and that the patient about to undergo removal of the uterus has been fully anæsthetised, and placed in proper position on the operating table, the first step in the operation, after the bladder has been emptied by the catheter, is the incision through the abdominal parietes, by which the peritoneal cavity is to be laid open and the uterine tumour exposed. This incision along the linea alba from an inch below the umbilicus to an inch above the pubes, differs from that generally necessary in ovariotomy in being necessarily of much greater length, so as to facilitate that free intra-peritoneal manipulation by which, in hysterectomy, the uterus is to be liberated from adhesions, and the broad ligaments ligated and divided.

2nd. As soon as the uterus has been thus brought into view any morbid adhesions to the bladder or other viscera are to be cautiously, and if possible, manually broken through, and any bleeding points or thick bands of adhesion so broken securely ligatured.

3rd. The uterus is now to be drawn upwards and forwards, so as to put the broad ligament and cervix somewhat on the stretch.

4th. The broad ligaments are then to be seriatim transfixed by a blunt pedicle needle armed with double strong silk sutures, by which the ligaments should be firmly ligatured in two or three divisions. Immediately below these another stout ligature should be encircled around each ligament. These latter ligatures must then be confided to an assistant, by whom, before the closure of the abdominal wound, the remaining portion of undivided broad ligaments should be again drawn into view, prior to the sutures being cut to ensure that the included vessels are effectually closed. The same object may also be accomplished by the use of either

Reeves' hysterectomy forceps, Storer's clamp shield, or Wells' compressing pedicle forceps.

5th. The broad ligaments may now be divided above the sutures by a scissors on each side of the uterus, which, together with the included ovaries and Fallopian tubes, now remains attached only by the cervix.

6th. The cervix may now be included either in a *serre nœud* or a hysterectomy clamp forceps, sufficiently low down to allow its transfixion, partly by a blunt-pointed pedicle needle armed with double stout wire or carbolised silk suture, so strong as to allow of that force, by which the ligatures can be so tightened as to obviate slipping and consequent hæmorrhage from the subsequent retraction of the undivided tissues. In this way the cervix must be ligated in two portions. Below these ligatures two transfixion pins should be passed at right angles through the cervix, and below these again it should be tightly encircled by a stout silk or carbolised whip-cord ligature.

7th. Above all these ligatures, the uterine cervical zone is now to be slowly divided by a strong, round-pointed scissors and removed.

8th. The cervical stump or pedicle may then be treated either by searing it with thermo-cautery, as in my last case, or, as in my previous ones, closed by the flap operation and covering it with peritoneum by fine silk or gut sutures. The clamp forceps can now be relaxed, and, if there be no hæmorrhage, the cervical stump should be secured either by the transfixion pins or by clamp in the lower angle of the abdominal incision, where, after the closure of the upper part of the wound, having been freely dusted with iodoform, it must remain to be treated extra-peritoneally.

9th. The abdominal cavity is then to be flushed out with warm boric solution, after which, the sponges and forceps having been carefully counted to prevent risk of any being left behind, and the ligatures having been also looked to, the abdominal wound may be closed and dressed as in an ovariotomy, except in one respect—that is to say, in Porro's operation the lower angle of the wound must remain unclosed to allow space for a drainage-tube, as well as for the cervical pedicle, which must, as I have said, be treated by the extra-peritoneal method. This is conceded by the great majority of authorities, although my friend Dr. M'Ardle, himself a successful operator, in such cases still rather favours the extra-peritoneal method in this operation as in ovariotomy. One of the many differences, however, between these procedures is the extreme difficulty generally experienced in preventing hæmorrhage from the pedicle in the former, and hence the advantage of having the cervix in view after Porro's operation in case any such hæmorrhage should occur.

It is needless to add that during and after no operation is unremitting attention to perfect asepsis, and to all antiseptic precautions, more essential than in that which I have now described my method of performing.

This operation differs, as will be seen, in several respects from Müller's modification of Porro's operation. It is still more distinct from Freund's operation for the extirpation of the non-gravid uterus, with which, as an examiner, I have found the latter procedure is not unfrequently confounded. To illustrate clearly that distinction I shall, therefore, here briefly describe Freund's operation as performed in a case under my observation. In Freund's method of hysterectomy, the abdominal cavity having been laid open, as in ovariotomy, the broad ligaments are transfixed and ligatured in two or three portions on either side, so as to secure above the sutures the Fallopian tubes and ovaries, and to seal the ovarian and uterine vessels, the lower ligature being brought out into the vagina. The uterus is now cut away from its vaginal and ligamentous connections and withdrawn through the abdominal wound, which is subsequently closed, as in ovariotomy; whilst the ends of the remaining ligatures in the broad ligaments are brought down into the vagina, about which the anterior and posterior layers of pelvic peritoneum are previously brought together by silk or gut sutures, so as to close the peritoneal cavity, a drainage-tube being then left in the vaginal wound. My own opinion and very limited experience of Freund's method of abdominal hysterectomy is similar to that of many other surgeons, by whom some years ago it was more largely resorted to, and by most of whom (although more facile than vaginal hysterectomy, and possibly capable of some future improvement), owing to its terribly unsuccessful results—the consequent mortality being over 70 per cent.—it has been generally abandoned.

On the other hand, the mortality of Porro's operation under the most favourable circumstances that is in obstetrics where the condition of the uterus is presumably a normal one, according to Sir Spencer Wells, is 56 per cent. of the mothers so operated on; hence the results in my cases of removal of uterus for such disease as existed in all these cases—namely, two deaths and one recovery, being a mortality rate of 66·6 per cent., considerably less than that of Freund's operation—are by no means exceptionally unfavourable when we consider the circumstances of these cases and the condition of the patients so operated on, as the last possible chance of relieving suffering and prolonging life in cases apparently otherwise beyond hope. At the same time I must add that I think it only justifiable to perform such operations, as was the case in the three instances above referred to, in compliance, as a *dernier ressort*, with the entreaty of a patient fully aware of all the risk of the procedure and beyond other methods of relief.

Finally, in this connection it may be added, that in obstetric practice, for which primarily designed as a substitute for Cæsarean section, there can be no ground now-a-days for recourse to either Porro's operation, or any of its subsequent modifications. Inasmuch as within the last few years, owing mainly to the improvements in the technique, and consequently in the results, of the oldest of all intra-peritoneal operations, effected by Professor Sänger, of Leipzig, and also, and above all others, by Professor Murdoch Cameron, of Glasgow, the Cæsarean section (my first case of which was reported in my chapter on this subject in "The Dublin Practice of Midwifery," published twenty-one years ago) has been robbed of its former terrors. No triumph of modern abdominal surgery has probably been equal to that which has taken place in the performance of this operation by the method of Cameron, by whom the Cæsarean section has been accomplished in 20 cases with only two deaths, being a mortality hardly greater than that generally obtained in ordinary ovariotomy. With that method thus available, and with the exceptional experience of Cameron to guide us, it is, I think, therefore evident that we should no longer be justified in obstetric practice, in resorting, whether by Müller-Porro, or any other method, to an operation so terribly fatal as the removal of the gravid uterus has always proved, and must always remain.

PNEUMOTOMY TWICE IN THE SAME PATIENT.

J. B. White, M.D., reports (*Medical News*, Philadelphia, 14 January, 1893) a case in which he twice practised pneumotomy (at an interval of two months) for the relief of tuberculous abscess and gangrene of the lung. Two years have passed since the last operation, and the patient is in perfect health.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Archives des Sciences Biologiques, Publiées par l'Institut Impérial de Médecine Expérimentale a St. Pétersbourg. Tome I., No. 4. 1892.

This number of these valuable archives contains four papers.

The first is on the so-called "Fistula of Eck," or a communication artificially established between the vena portæ and vena cava, by which the blood of the former vessel reaches the general circulation without passing through the liver. The research is a collective one—the physiological part by Massen and Pawlow, the pathologico-anatomical part (not yet completed) by Ouskow, and the chemical part by Hahn and Nencki.

In the experiments dogs were employed. The operation, one of extreme delicacy and difficulty, is minutely described. Of about 60 dogs operated on one-third survived and served for observation.

Of the phenomena which followed the operation the most remarkable were those manifested by the nervous system. The animal becomes vicious, ill-tempered, and excitable. Restlessness alternates with somnolency and feebleness. A peculiar condition of ataxy developes, accompanied by blindness and loss of the feeling of pain, while consciousness and hearing remain. The animal comes when called, or runs away if the door be suddenly opened, but cannot avoid obstacles, and is not apparently incommoded by a needle plunged deeply into his nose or lip. This condition is followed by convulsions and coma, in which death takes place or which may be recovered from.

It was observed that there was a connection between the feeding of the animals and the intensity of the nervous attacks. Those who ate very little, all suffered sooner or later from violent attacks of convulsions and died, while those who only occasionally ate badly and did not emaciate, had less violent attacks, commencing with somnolence and terminating by fury and agitation. It was further found that a meat diet was most injurious, invariably causing serious derangement of the nervous system, often terminating in death.

The reason why some animals recovered was found in the re-establishment of a circulation through the liver from the intestines by means of adhesions between the former and the mesentery, omentum, and intestines. The collateral circulation through these adhesions was more readily established when the fistula between the vena cava and the vena portæ was of small size.

As to the cause of the nervous symptoms, it is probable that they were due to poisoning by carbamic acid. This acid was found in the urine often in considerable quantity. Injections of carbamate of sodium into the vessels of dogs produced a group of symptoms closely resembling those seen in the dogs with fistula—namely, somnolence with ataxy, excitement with ataxy and blindness, catalepsy with anæsthesia, epilepsy and tetanus.

Introduction of carbamate into the stomach of normal dogs was without effect; but when introduced into the stomach of dogs with fistula the results were the same as when meat was eaten, except that convulsions did not occur, probably because the dose was too small. It would, therefore, appear probable that in the liver carbamate undergoes a transformation into a harmless substance, and an important function of the liver is to produce this transformation of the carbamate normally formed in the body. Finally, the authors call attention to the similarity between the symptoms manifested by the dogs and those seen in men suffering from so-called uræmia, and suggest that the uræmic symptoms may be due to poisoning by carbamic acid.

In the chemical part of the research it was found that the urea of the urine was not much diminished by the establishment of the fistula, but that if in addition the hepatic artery was ligatured, or a great part of the liver removed, the urea underwent a considerable diminution.

The uric acid was greatly increased, particularly when the symptoms of intoxication showed themselves.

The operation of Eck, combined with ligature of the hepatic artery, causes an increased elimination of ammonia. In some cases this increase is only relative to the nitrogen of the urea and to the total nitrogen, while in other cases it is absolute—this occurs when the animals survive the operation for at least twenty hours. The ammonia increases rapidly as soon as the first morbid symptoms appear. The question then arose in what form is the ammonia eliminated.

Carbamate of ammonia has been found in the blood of the dog, and in the urine of the horse, but its presence in the urine of the dog or man is denied. The authors, however, find that it is frequently present in the urine of normal dogs and men. In the dogs with fistula, however, carbamic acid is found in the urine in much greater quantity.

It seems certain that carbamic acid plays an important part not only in the fistula dogs but in the symptoms of diseases of the liver, such as acute yellow atrophy and phosphorus poisoning, and it is probable that the large proportion of ammonia found by Hallervornden in the urine of diabetics and in interstitial hepatitis is due to the presence of carbamic acid. It is the function of the liver to convert this carbamic acid into urea. The carbamic acid is formed wherever the oxidation of nitrogenous organic substances takes place in an alkaline medium—these conditions are found in the tissues. The portal vein carries carbamic acid to the liver only in so far as it receives the blood of the spleen, of the pancreas and of the glands of the intestinal mucous membrane. These glands are the seat of active phenomena of transformation and oxidation during the process of digestion.

The second paper is by Dr. Zumft, on "The Putrefactive Process in the Human Large Intestine and on the Micro-organisms which Cause it."

Nencki has shown that, normally, the putrefaction of proteid substances is effected only in the large intestine, and that putrefaction is much more active when caused by a mixture of organisms than when brought about by a pure culture. Zumft, then, proposes the question, What would be the decomposition of albuminoid substances caused by the mixture of microbes inhabiting the human large intestine carried out *in vitro*, but imitating as much as possible the natural conditions?

Sterilised infusion of meat was inoculated with human fæces; the air was expelled by carbonic acid, and the whole kept at the temperature of the body. The putrefaction took place much more slowly than when carried on in the presence of the air. After 3–5 days only 20–25 per cent. of the meat was decomposed. Therefore this fermentation can play only a small part in the process of digestion compared to that taken by the gastric and pancreatic secretions.

Among the bacteria one, not hitherto described, was isolated which produced the same products of decomposition as those got with the mixture of organisms.

For further details of great interest, we must refer to the original paper.

The third paper, by Dr. Louis de Rekowski, is on "The Micro-organisms found in the Organs of Persons who have died of Cholera."

Pieces, as large as a nut, of the different organs were taken with antiseptic precautions, and planted in the culture media.

It was found that in the intestine at least twelve different organisms could be detected; when these were grown on bouillon, their number was greatly diminished, and when, from the bouillon, cultures were made on gelatine, only three or four different kinds grew. This is due to the difficulty with which many of the intestinal bacteria grow in presence of free oxygen, and to the struggle for existence among them and the consequent survival only of the fittest for the new mode of life.

It has been stated that in cholera the specific organism is found only in the intestine, and that it is the absorption of its toxin to which the symptoms are due. Rekowski, however, has found this not to be the case, but has met with both the cholera vibrio and other bacteria in most organs examined—as brain, blood, liver, spleen, kidneys, muscles, &c. It is shown that this cannot be a *post-mortem* wandering of these organisms. The severe symptoms of the algide stage and of cholera typhoid depend, probably, on the penetration into the organs not only of the cholera organism but also of the others which were found.

It is not, however, denied that the symptoms of cholera can be produced by the toxin of the comma bacillus. Attention is drawn to the fact, that in order that the cholera bacillus shall exert its pathogenic action it must find in the living organism a favourable medium for its development. The healthy human body is not such a medium. Nearly all the bodies examined, which belonged to the poorer classes, were enfeebled by previous disease. It is probable that the puerperal condition in women, and such diseases as nephritis, dilatation of the stomach, cirrhosis of the liver and gastritis, are strong predisposing causes of cholera.

In the fourth paper Jakowski details the results of the "Chemical Examination of Two Cases of Intestinal Fistula in Human Subjects.". One was situated almost certainly in the ascending colon, the other in the lower part of the small intestine. The latter had lasted thirty-five years, and yet the health and strength were well maintained, although the large intestine did not act on the food.

The important researches of Nencki, Sieber and Macfadyen, have shown that the putrefactive processess in the small and large intestines are different; the former affecting chiefly the carbohydrates, the latter the proteids.

The matters collected from the fistula in the large intestine were alkaline or neutral; their density varied from 1016–1034. They consisted on an average of 93·73 per cent. water and 6·27 per cent. solids, of which 86·03 per cent. was organic, 13·97 per cent. inorganic. From 2–3 per cent. of proteids, some sugar, peptones, urobiline were present in small quantity, but traces only of bile acids.

Carbonic acid, sulphuretted hydrogen, methylmercaptan scatol, aromatic oxyacids and phenol were found in the distillate. Ethylic and butylic alcohols were found, even when the patient received no alcohol with food; fatty acids, probably caproic and valerianic acids. Succinic acid was present in the residue, leucin (but no tyrosin), ammonia and pentamethylendiamine (cadaverin).

Eight organisms were isolated, of these two could not be cultivated; the characters and actions of the others are minutely described. Among them are the (1) *Bacillus liquefaciens ilei* of Nencki, Sieber and Macfadyen. The (2) *Bacillus pyocyaneus* of Gessard; this has been found to decompose sterilised meat with production of sulphuretted hydrogen, methylmercaptan, scatol, aromatic oxyacids, volatile fatty acids, &c. (3) Small cocci corresponding to *Streptococcus coli gracilis* of Eschrich; these also decompose meat, forming the above products. (4) *Bacterium aerogenes* of Miller. (5) An undescribed coccus, *Diplococcus albus intestinorum*. (6) Vibrios. (7) A chromogenic coccus not hitherto described, *Staphylococcus rosaceus*. (8) Torulæ.

The second case, in which the fistula was situated in the small intestine, yielded always an acid matter, the acidity was due not to hydrochloric but to organic acids, chiefly acetic acid; the density was 1019. There was 9·75 per cent. of solids, 90·25 per cent. water. Of the dry matter 90·05 per cent. organic, 9·95 per cent. ash. The proteids amounted to 3·44 per cent. of the fresh matter. The sugar varied from 2·32 to 1·65 per cent. Peptones were twice found—biliary pigments, urobilin, and traces of bile acid.

On analysis were found carbonic acid, traces of sulphuretted hydrogen, no methylmercaptan. Aromatic oxyacids, ethylic alcohol, volatile fatty acids were present, but no phenol, indol or scatol.

In the residue, succinic acid, and small quantities of lactic acid were found, but neither leucin nor tyrosin.

Six kinds of bacteria and yeast were isolated. Among these were *B. Bischeleri*, *Streptococcus liquefaciens ilei*, *Diplococcus albus intestinorum*, *Bacillus liquefaciens ilei*, and *Bacillus pyocyaneus*.

These observations confirm the results of Nencki, Sieber, and Macfadyen, that the decomposition of carbohydrates takes place in the small intestine, and that proteids are there decomposed, if at all, only to a very slight degree; while the large intestine is the place of hydration (leucine) and of the definite decomposition of proteid matter, and, besides, of the decomposition of bile pigments and of the reduction of bilirubin into urobilin.

Another very interesting point is the confirmation of the discovery that alcohol can be formed in the intestine from carbohydrates. This takes place chiefly in the small intestine, and is due to the action of Bact. coli commune, Bact. Bischleri, Bact. ilei Freyi, and Bact. lactis aerogenes, besides that of yeast.

Our knowledge of the bacteriology of the intestine is much advanced by these researches.

Further, the way is opened, by following which a more complete acquaintance with the processes taking place in the intestines may be got than is possible by any other means.

The Johns Hopkins Hospital Reports.—Report in Pathology II. Baltimore: The Johns Hopkins Press. 1892. Pp. 152.

THIS part of the Reports contains two very valuable papers, both by Dr. J. Whitridge Williams.

The first is on "Papillomatous Tumours of the Ovary." The following are the conclusions as given by the author:—

"1. Most papillomatous cystomata are not developed within the broad ligament; the majority of intra-ligamentous papillomatous growths being of other than ovarian origin.

"2. These growths are derived either from the Graafian follicle or germinal epithelium; their origin from relics of the Wolfian body or from the tubal epithelium, while possible, has yet to be demonstrated.

"3. As the origin of both the ciliated and non-ciliated papillomatous growths is identical, we consider that there is no justification for considering them as constituting two distinct classes of growths.

"4. Polymorphism of the epithelium is not characteristic of ciliated papillomatous growths.

"5. The formation of psammoma bodies is not pathognomonic of the ciliated papillomatous cystomata, for they occur in the superficial and non-ciliated varieties, and also in the normal ovary and tube, as well as in other parts of the body.

"6. The superficial papillomata are of far more frequent occurrence than is generally supposed.

"7. They are very closely related to the papillomatous cystomata and are always derived from the germinal epithelium.

"8. All varieties of papillomatous growths of the ovary have a marked tendency toward the formation of secondary growths. The majority of secondary growths are produced by mere extension of the growth by continuity of tissue or by implantation of small particles of the tumour upon the peritoneum. In rare instances, true metastases may be formed.

"9. The papillomatous tumours possess a marked tendency to become malignant, and even the anatomically benign growths, in view of their tendency to the formation of secondary growths, are to be considered as clinically malignant.

"10. The results of operations, even after the formation of secondary growths upon the peritoneum, are quite satisfactory."

The details of seventeen cases, from an examination of which the account of the tumours is drawn, together with a very complete bibliography of the subject are appended to the paper, which is illustrated by two well-executed plates.

The second paper is on "Tuberculosis of the Female Generative organs.

The following are the author's conclusions :—

"1. Genital tuberculosis may occur at any age from 10 weeks to 83 years, but usually between the 20th and 40th years.

"2. It is usually secondary to tuberculosis elsewhere, but in a considerable number of cases is primary in the genitals.

"3. Its frequency is much greater than is usually supposed. A careful microscopic examination of all the tubes and ovaries removed by operation demonstrates that a considerable number of cases are tuberculous, even when macroscopically they present no trace of tuberculosis. Such cases we have designated as 'unsuspected genital tuberculosis.' In our experience about 8 per cent. of all appendages removed for inflammatory diseases are tuberculosis. In other words every 12th case of adherent tubes and ovaries or pus tubes is of tubercular origin. Only 25 per cent. of the cases are recognised on macroscopic examination, and the other 75 per cent. occur as 'unsuspected tuberculosis.' Wider experience from various sources is necessary before positive laws on these points can be formulated.

"4. Every portion of the genital tract may be affected, the order of frequency for the various portions being: tubes, uterus, ovaries, vagina, cervix and vulva. The tubes are affected in nearly all cases, the uterus in from 60–75 per cent., and the ovaries in from 40–45 per cent. of all cases.

"5. Tuberculosis of the cervix, no doubt, occurs more frequently than is usually supposed, and may be mistaken for carcinoma.

"6. Tuberculosis of the tubes and uterus is usually limited to the mucous membrane, and occurs in three forms—

"Miliary tuberculosis,

"Chronic diffuse tuberculosis,

"Chronic fibroid tuberculosis,

"Chronic diffuse tuberculosis is much the most frequent and represents the well-known caseous form of the disease.

"7. Genital tuberculosis may be due to direct infection from without. The occurence of infection by coitus is very probable, but has not yet been conclusively demonstrated. The majority of cases are secondary to tuberculosis elsewhere, and are due either to infection from the blood or the neighbouring organs. Even in the apparently primary cases it is impossible to exclude blood infection.

"8. The symptoms are not characteristic. In primary cases they may be entirely absent or vary from those of simple endo-metritis and salpingitis to the most severe forms of pelvic abscess. In secondary cases, the symptoms of the primary affection may so over-shadow those of the genital tract that its involvement may only be recognised at the autopsy.

"9. The prognosis is always grave. Primary cases may lead to phthisis, tubercular peritonitis or general infection, and either primary or secondary cases may go on to suppuration and abscess formation, and death may result from marasmus and hectic fever or peritonitis, or from the primary affection.

"10. Primary cases can only be diagnosed by the discovery of tubercle bacilli in the secretions or the demonstration of the histological characteristics of tuberculosis in the scrapings from the uterus. The coexistence of tubo-ovarian masses with phthisis or tubercular peritonitis should at once arouse suspicion as to the tuberculous nature of the affection.

"11. Treatment may be prophylactic, palliative, and operative. Prophylactic treatment consists in cleanliness and the prohibition of coitus between persons, one of whom has genito-urinary tuberculosis.

"Ulcerations of the vulva, vagina and cervix should be treated with applications of tincture of iodine and iodoform, and excised if isolated and intractable to treatment

"Tuberculosis of the uterus should be curetted and iodoform introduced; if the disease recur, the uterus should be removed per vaginam.

"Tuberculous tubes and ovaries should be removed by laparotomy unless contra-indicated by the general condition of the patient (advanced phthisis). Tubercular peritonitis and the early stages of phthisis are not contra-indications to laparotomy."

In this paper also are appended records of cases and a very extensive list of bibliographical references.

Advice to Women on the Care of the Health before, during, and after Confinement. By FLORENCE STACPOOLE. London: Cassell & Co., Limited. 1892. Pp. 134.

THIS is a very useful little handbook, plainly and concisely written. An appreciative account of Semmelweis's work and a description of the death of Princess Charlotte might at first sight be deemed padding, but they are used to emphasise the importance of cleanliness and the value of timely assistance. The usefulness of anæsthetics and the forceps, and the foolishness of the prejudice against them, are well treated. The arrangement is good, the language simple, the directions clear, and the reader will get, not platitudes, but help.

Health: Belfast.

THIS new penny paper appears on the 7th of each month. The first two numbers for February and March contain a number of interesting sanitary articles, and the local news is well edited. Belfast people will no longer have any excuse for being ignorant as to local sanitary matters.

Advice to Intending Visitors to Cannes. By H. BLANC, M.D., F.R.C.P. London: J. & A. Churchill. 1893. Pp. 42.

THIS tastefully got-up booklet contains, in a small space, much useful information. The advantages of Cannes are pointed out and receive full justice from the author, who knows and loves the place, but the drawbacks are not glossed over, and valuable notes are given as to what classes of cases should avoid Cannes and what precautions are necessary, so that the suitable cases may be benefited.

Epilepsy, hysteria, neurasthenia, and diseases associated with hæmorrhages (acute phthisis, fibroids, cirrhosis of liver, ulcer of stomach, &c.), are injured rather than benefited by a sojourn at Cannes; whilst catarrhal affections, chronic phthisis, scrofula, and tubercular diseases of the bones, chronic gout and rheumatism, and convalescents generally, are benefited.

The paper, type, and padded cover add attractive appearance to an interesting *brochure.*

Elementary Physiology for Students. By ALFRED T. SCHOFIELD, M.D., M.R.C.S., &c. London: Cassell & Co. 1892. 8vo. Pp. 372.

IN this manual Dr. Schofield has attempted, and not in vain, to give a concise yet clear account of the leading facts of the science of Physiology. The author's language is for the most part simple and intelligible, and the book is eminently a "readable" one. Indeed, we have no doubt that it will be heartily welcomed, not only by medical students, for whom it has been specially written, but also by busy medical practitioners, the many calls upon whose time forbids a close analysis of rival views and theories about modern physiological problems, which are often so abstruse. And yet the work leaves much to be desired. Whether it is from a hasty passage through the press or from careless reading of the proof sheets an undue proportion of printer's errors mar the text. Thus, at page 116, we read that white blood corpuscles "vary from 1 to 800 red corpuscles when fasting *down* to 1 to 300 after a meal." Surely, this should be "*up* to." At page 118 coagulation of the blood is said to be deferred by heat above 180° C., instead of 80° C. At page 133 we meet with this contradictory statement: "There are thus, in the heart, *four* valves with three flaps (two semi-lunar and one tricuspid), and one with two flaps (the mitral)." On the very next page (134) the words "vein" and "artery" are reciprocally misplaced in the upper half of a diagram representing the circulatory system. On page 135 we read: "In case, however, of there being any *destruction* or disease in the lungs, &c." This, of course, should be "any *obstruction* or disease in the lungs."

At page 138, "dicrotic" is repeatedly mis-spelled "dichrotic." What is meant by the statement, on page 141, that "all the blood from the internal organs . . . is collected again by the hepatic vein and enters the *venæ cavæ*"? At page 132 the words "*bicuspid* or" should be inserted before "*mitral valve*," as the author has just mentioned "*tricuspid valve*." What is the "*Casserian* ganglion" spoken of at page 301?

There are also some errors both of commission and of omission. As examples of the former class, we may instance the description of uric acid (page 192) as *colourless* and crystallising *in sharp needles*. Why, one of the distinctive marks of uric acid is that its crystals take up the colouring matters of the urine, in contrast to the colourless crystals of oxalate of calcium, phosphate of calcium, and triple phosphate. And, again, its barrel-shaped, lozenge-shaped, and cayenne-pepper crystals are certainly not to be described as "sharp needles." We dispute, further, the soundness of the author's opinion that "free uric acid is not common in urine." At page 139, again, it is said that the second sound of the heart is caused (*exclusively*) by the slamming of the aortic *valve*, as if the pulmonary valves had nothing to say to the production of the sound.

In the description of the thyroid gland, at page 145, no mention is made of myxœdema, although it is stated that this gland "is enlarged in goître."

The author explains in his preface that he is enabled to present to the student of Physiology the "leading facts of the science in a fuller way than is generally found in a work of this size," partly "by introducing very sparingly detailed descriptions of the various complicated machines by which the results recorded have been obtained." This laudable object is, in our opinion, attained at too dear a cost by dismissing a description of the sphygmograph and cardiograph in *three lines* of print at the top of page 139. "These instruments," writes Dr. Schofield, "consist essentially of a fine lever placed on the beat and connected with a sheet of smoked paper on which its movements are traced"!

It is not to be supposed that we condemn this book. Quite the reverse, and our unsparing criticism of its weak points is intended only to secure so far as lies in us that the second edition shall be more worthy of the author's undoubted ability as a physiologist no less than as a writer of clear and intelligible English.

The book is well illustrated with two coloured plates, which serve as frontispiece, and with numerous drawings and diagrams interpolated in the text. Many of these illustrations are original, while others are copied from such masters as Frey, Flemming, Heidenhain, Schäfer, Duval, Hatschek, Izquierdo, Erb, Meynert, Henle, Gerald F. Yeo, Rollett, Gerlach, Waldeyer, Retzius, Langley, and Elberth (? Eberth).

Atlas of Clinical Medicine. By BYROM BRAMWELL, M.D., F.R.C.P. Edin., F.R.S. Edin., Assistant Physician to the Edinburgh Royal Infirmary, &c., &c. Volume II. Part II. Edinburgh: T. & A. Constable. 1893. Folio. Pp. 45.

THIS part of Dr. Byrom Bramwell's great undertaking is fully up to the high standard of excellence he has set before him. The plates, which are very numerous, are of conspicuous merit. They illustrate primary, secondary, and tertiary syphilis. With this part is also issued a striking likeness of exophthalmic goître.

Four subjects are discussed in the letterpress. First, the article on alterations in the fields of vision is continued from Part I., and is concluded. Then follows a monograph on syphilis. At page 70 there are brief notes on three cases of Friedreich's disease complicated with *main-en-griffe*, which Dr. Donaldson of Londonderry forwarded to Dr. Bramwell. The cases all occurred in the same family—two brothers and a sister, aged respectively 64, 45, and 50 years, being the victims of the disease. Lastly, an article on Asiatic cholera appropriately finds a place in the present instalment of the Atlas.

Like its predecessors, this part has been brought out in a manner which reflects the greatest credit on the publishers.

Report of a Case of Syringomyelia. By JAMES HENRIE LLOYD, A.M., M.D., Physician to the Philadelphia Hospital, &c. Reprinted from *University Medical Magazine*, March, 1893. Philadelphia: University Press. Pp. 13.

IN the case described by Dr. Lloyd the diagnosis was borne out by the conditions found after death which was caused by pneumonia. "The cervical enlargement 'of the cord' was broadened and flattened (somewhat ribbon-like), and to the finger, gently pressing or squeezing it, gave the impression of containing a cavity. On section a large cavity was found beginning in the very lower part of the medulla, broadening out in the cervical region, and extending well down into the dorsal cord. It did not extend into the lumbar enlargement." The cavity was not regular in transverse shape; the normal central canal was not visible apart from it, and, therefore, it may be said that the morbid cavity was central but unsymmetrical. Above and below the cavity the central region was gliomatous, a condition probably antecedent to the liquefactive process seen in the cavity.

The clinical signs had been the usual ones, a grouping of muscular, sensory, and trophic pareses hardly explicable on any other supposition than that of an indiscriminating central lesion. In so far as the muscular atrophy went, the disease might have been mistaken for a lesion in the anterior horns; the spastic gait and increased reflexes might have suggested as the main condition the degeneration of the lateral tracts which was actually found after death; while the widely distributed anæsthesias for touch, temperature, and pain seemed to point to grave interference with the sensory routes in the cord, and especially, perhaps, the posterior horns. It is on this combination of motor, sensory, and trophic symptoms, in the first place, and on the peculiar "dissociation" of the sensory pareses, in the second place, that the diagnosis of syringomyelia rests. The trophic symptoms, besides muscular atrophy, often embrace œdema, glossy skin, bullæ, and even, assuming the identity of Morvan's disease and syringomyelia, painless whitlows and occasionally dropping off of the distal phalanges of the fingers. Dr. Lloyd's case seems to have shown comparatively few of the trophic disturbances outside of the muscular atrophy. We note that in his case, as in most of those on record, the upper part of the trapezius seemed to enjoy a long immunity from the atrophic process, thus further linking syringomyelia with progressive muscular atrophy. But the *ultimum moriens* only enjoys this immunity, probably because it is innervated from a higher level than that usually first involved; and in syringomyelia, at least, as a case lately shown in Dublin shows, it may be the earliest, and, for a time, the only absolute example of atrophy in the whole muscular system.

Dr. Lloyd's paper is a clear and concise clinical record. It contains a good picture of the patient, some useful charts of the anæsthetic areas, and several pictures of the cord in transverse section under low magnification.

Physical Diagnosis: a Guide to Methods of Clinical Investigation. By G. A. GIBSON, M.D., D.Sc., F.R.C.P. Ed., Assistant Physician to the Royal Infirmary, Lecturer on the Principles and Practice of Medicine in the Edinburgh Medical School; and WILLIAM RUSSELL, M.D., F.R.C.P. Ed., Assistant Physician (formerly Pathologist) to the Royal Infirmary, Lecturer on Pathology and Morbid Anatomy in the Edinburgh Medical School. Second Edition, revised and enlarged. With one hundred and nine illustrations. Edinburgh and London: Young J. Pentland. 1893. 8vo. Pp. 383.

WE do not remember to have seen the first edition of this work, which was published early in the year 1890; but we have no hesitation in pronouncing a favourable opinion of the second edition, which now lies before us. If we were asked to point out an especially satisfactory feature in this work, we would select the illustrations, several of which are no doubt copied from other works, but most of which are original and instructive. In the very effective diagrams illustrating topographical anatomy and the physical conditions producing clinical phenomena, the artist, Mr. William Keiller, F.R.C.S. Ed., has attained a striking and legitimate success. Of all the drawings, the beautiful coloured plates of urinary crystals, deposits and derivatives, bear away the palm for finish as well as for truthfulness to nature.

The scope of the book is very wide. After short chapters on the evidence upon which diagnosis is based, on methods and terms, and on temperature, the physical examination of the different systems of the body is described in successive chapters on the skin, circulation, organs of respiration, the alimentary system, including the abdominal viscera, the urinary organs, the nervous system, and lastly, the examination of the eye, ear, larynx, and naso-pharynx. The sections devoted to the integumentary, urinary, and nervous systems, together with the examination of the pulse, are by Dr. Gibson; those on the circulatory, respiratory, and alimentary systems are by Dr. Russell. The authors, in the preface to the first edition, gratefully acknowledge their indebtedness to Dr. M'Bride, Surgeon to the Ear and Throat Department of the Royal Infirmary, for the sections on the ear, throat, pharynx, naso-pharynx, and larynx; and to Dr. Mackay, Assistant Ophthalmic Surgeon to the Royal Infirmary, for those devoted to the eye. These special sections are unique features in this book, and greatly enhance its value.

The authors—wisely, we think—have omitted any detailed description of the sphygmograph, on the ground that, as it is so well known nowadays, a description would be as superfluous in its case as in the case of the stethoscope. Dr. Gibson also observes:—

> "It must be borne in mind that the sphygmograph is of limited use in diagnosis. It reveals no new fact which can enable us to discover affections unknown before its invention; it nevertheless brings into prominence certain points in regard to the pulse which would be less definite without its aid, and it is on this account of some clinical interest. On the other hand, there are some aspects of the pulse which can be much more accurately gauged by means of the finger than by the help of the sphygmograph. The instrument can, therefore, only be regarded as a supplement to the finger of the observer." (Page 98.)

While there is not much to find fault with in this book, we cannot avoid drawing attention to the statements that, in the first stage of pneumonia (congestion and exudation) "there is comparative percussion dulness, the pitch being higher than on the unaffected side" (page 169); and that "in the early stage it (phthisis) is characterised by dulness on percussion" (page 173). These statements require qualification. As a matter of fact, in both the morbid conditions named, tension of the lung tissue is diminished and the percussion sound is for the time hyper-resonant, or tympanitic. Writing on this very subject, Paul Guttmann in his "Handbook of Physical Diagnosis" (translated in 1879 for the New Sydenham Society by Dr. Alex. Napier) observes: "A *tympanitic percussion-sound* is sometimes also heard in *pneumonia*, especially in the first stage and in that of resolution." And again: "The percussion-sound is frequently observed to be *tympanitic* in the supra- and infra-clavicular regions when the summits of the lungs become the seat of *caseous pneumonic infiltration*." "Here also," he adds, "the tympanicity depends on the relaxation of the lung substance and diminution of its air-contents." Repeatedly have we had an opportunity of verifying in clinical examinations the correctness of these statements by Guttmann.

There is little doubt that this work on "Physical Diagnosis" will be popular among students. It is clearly printed on good paper, is of convenient size, and does not cost too much. We heartily recommend it as a reliable guide in clinical examination.

Notes on the Malarial Fevers met with on the River Niger (West Africa). By W. H. Crosse, Principal Medical Officer, Royal Niger Company, Chartered and Limited. London: Simpkin, Marshall, Hamilton, Kent, & Co., Limited, and H. H. G. Grattan, 16, The Borough, London Bridge. 1892.

In this neat booklet of 106 pages the author gives the results of his experience of the causation, symptoms, and treatment of the dreaded malarial fevers of West Africa. The writer "does not profess to give an exhaustive or detailed account of all the diseases caused by malaria;" for a full description of this he refers his readers to the more elaborate volumes of other authorities. After a short introductory section on "Malarial Fever or Ague," there are successive sections given to the consideration of "Intermittent Fever," "Remittent Fever," and "Blackwater Fever." Then comes another on the "Treatment of Malarial Fever," followed by "Effects and Sequelæ of Malarial Poisoning," and "Notes on some Cases of Malarial Fever" (26 in number). The arrangement of the material is somewhat crude, and the author's style, punctuation, and syntax could easily have been improved by skilled revision. The volume will, however, repay perusal, as it contains the results of personal observation in this terrible hotbed of malarial disease. His summary of the use of *quinine* agrees with what we have been so generally taught. "This is the most valuable drug we have for the treatment of malarial fevers. It is a specific which rarely fails; when it does, there will probably be some special reason, such as extreme malarial cachexia, organic disease of the liver or kidneys, and in rare cases of hæmoglobinuria such extensive destruction of the red blood-cells that no drug can be of much service, the patient's condition being somewhat like that brought on by excessive hæmorrhage." *Antipyrin* "is often of great service, especially during the hot stage; it has, however, to be administered with some caution, especially in people who suffer from cardiac trouble, as it is a depressant. . . . Large quantities of antipyrin produce hæmoglobinuria, but this effect is never caused by medicinal doses." The author believes that "*opium* s one of the most valuable drugs we have," that *arsenic* undoubtedly has antiperiodic properties, that *iron* should be tried in cases of hæmoglobinuria when the temperature is not very high; while of Warburg's Tincture he says: "I have entirely given up the use of this; the taste is most unpleasant, and I believe that not being allowed to drink between the doses is very distressing and harmful to the patient."

Microbes et Maladies. Par le DR. J. SCHMITT, Professor agrégé à la Faculté de Médecine de Nancy. Paris: Librarie J. B. Baillière et Fils. 1886. (Bibliothèque Scientifique Contemporaine).

THIS interesting and instructive little volume has come to hand rather late from the date of publication. A manual of bacteriology aged seven years may be almost be said to belong to the literature of antiquity. The microbes have during these seven years been growing in importance, and extending their influence over the whole domain of pathology. The general principles of the science which deals with their life history and their association with the phenomena of disease remain, however, pretty much what they were when this volume saw the light; and the difficulties which some sceptics still offer to the general acceptance of their presence as the essential factor of disease have not yet been wholly removed.

This manual is a reprint of the articles "Zymotiques (maladies)" and "Microbes," which had previously appeared in the pages of the *Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques.* Accordingly, it consists of two parts: the first "est consacrée à l'étude des *microbes,*" while the second "est une étude générale des *maladies zymotiques* ou *infectieuses.*" The author does not pretend to aim at originality: "nous n'avons pas eu la prétention d'innover; notre but plus modeste a été de résumer ce que nous ont appris les Pasteur, les Koch, les Cornil, les Liebermeister, et tout d'autres dont les brillantes recherches ont en quelques années établi sur les bases certaines une médecine nouvelle." Dr. Schmitt can well be congratulated on the fulfilment of the task to which he had set himself. The first part occupies 156 pages; the second, and concluding part, reaches to page 296. There is a table at the end, but no index—which we regret. Like most of the other articles in the truly splendid encyclopædia of medicine and surgery from which these have been reprinted, they contain an excellent summary of the (then) existing state of knowledge of the subjects with which they deal; and of which every fact and theoretical statement is placed before the reader with the crystalline clearness of thought and diction, which forms so prominent a feature of all the high-class French scientific work of the present age. So that, although somewhat out of date for the requirements of the specialist, we cordially recommend the volume to the attention of the student and of the medical practitioner for an admirably clear statement of the facts and principles which form the basis of our bacteriological knowledge of the present day.

Arcachon, in the Department of the Gironde, France: its advantages as a Health Resort. By the Rev. SAMUEL RADCLIFF, British Chaplain. Second Edition, with Medical Appendix by Dr. FESTAL. London: Thomas Laurie. 1893. Pp. 64.

WITHIN the compass of this well-written little book, the reverend author has succeeded in focussing a vast amount of interesting information about Arcachon and its neighbourhood. Situated about thirty-five miles west-south-west of Bordeaux on a promontory on the southern shore of a large land-locked inlet from the Bay of Biscay, called the "Bassin d'Arcachon," this favourite health resort possesses many advantages as regards climate, surroundings, and accessibility.

The weather at Arcachon depends essentially upon the direction of the winds. Those which blow from the Atlantic are temperate at all seasons—warm and moist in winter and cool in summer, while those which blow off the land are cold in winter and hot in summer, as well as dry at all seasons. The westerly winds being the prevailing ones, the climate is on the whole wonderfully temperate. When the land winds—from easterly points—prevail, however, the cold may be severe in winter and the heat extreme in summer. One of the chief climatic advantages enjoyed by Arcachon is the comparative stillness of the air in the Ville d'Hiver, owing to the shelter afforded by the neighbouring sand-dunes and pine-woods.

Arcachon may be reached in an hour and a quarter from Bordeaux, in twelve to fourteen hours from Paris, in twenty-four or twenty-five hours from London, in five or six hours from Pau or Biarritz. The least fatiguing way of reaching it from England is to go by sea from Liverpool to Bordeaux by the vessels of the Pacific Steam Navigation Company or of the new Moss Line; or from London to Bordeaux by the vessels of the General Steam Navigation Company. Full information as to routes and fares may be obtained on application to Mr. Thomas Laurie, 28 Paternoster-row, London, who acts as agent for families about to proceed to Arcachon. We may mention that this favoured place possesses the almost unique advantage of having direct communication by telephone with Bordeaux, Paris, and London.

Arcachon is now a place of considerable size, the population at ordinary times being about 8,000. In the months of August and September, however, the visitors far out-number the residents. They amount to 15,000 or 20,000 and upwards, and consist chiefly of families from Bordeaux, but with a considerable sprinkling of Parisians, provincials, and foreigners of various nationalities. In the winter and spring months English visitors are met with in greatest numbers. The town stands in a district formerly occupied by a very beautiful piece of old forest. At the eastern and western ends of the town the forest comes quite close to the boulevard, but in the centre the town extends back for some little distance to the foot of a steep ridge of hill covered with forest.

Dr. Hameau, one of the chief French physicians resident at Arcachon, sums up the climatic influences of the place in the following sentences:—

"The climate of the forest of Arcachon is sedative to the nervous system.

"It places certain consumptives in a medium favourable to the cure of their disease, and always to some degree of improvement, when there is a predominance of the nervous system.

"It favours the cure of chronic bronchitis under the same circumstances.

"It is unfavourable to every disease of the chest in persons of a torpid and lymphatic temperament.

"It suits most asthmatic persons."

The Rev. Mr. Radcliff adds to these statements of Dr. Hameau that not only in diseases of the chest, but in any disease whatever, occasioned by, or complicated with, nervous irritation, the climate of Arcachon will be found beneficial, provided that the patient has not constitutionally a very weak heart or a torpid liver.

In an appendix, Dr. A. Festal, formerly House Surgeon in the Paris hospitals, gives the medical indications as to the suitability or unsuitability of Arcachon as a health-resort, and his conclusions agree in the main with Dr. Hameau's views.

Mr. Radcliff's little work also contains chapters on accommodation for visitors, housekeeping, education, society, and amusements; industries, such as the cultivation of the pine forests, fishing, and oyster culture, general information, objects of interest, and excursions—so that though small in size it is comprehensive in scope.

With the author we endorse Dr. Hameau's prediction that Arcachon will yet hold a high place in the resources of the healing art, "en dépit des critiques passionées, et des louanges plus exagérées encore, qu'on ne lui épargne pas."

Headaches; their Causes and Treatment. BY WM. HENRY DAY, M.D. Fourth Edition. Churchill. Pp. 432.

WE regret the delay which has occurred in noticing this book, which, having reached a fourth edition, must be assumed to supply a want. We think, however, after perusing it, that if it were condensed to one half its size it would prove a still greater success, and that this edition, instead of being a fourth, might probably have been a fifth or sixth. The pith and essence of the subject is surrounded by a vast amount of writing which one has to get through before extracting any real worth; and yet it contains much interesting and useful material. A copious and accurate index in some measure counteracts this fault, but, reduced as we suggest, and the superfluous writing expunged, it would be a most useful volume.

The paragraphs on treatment are particularly good. They are clear, and physiologically sound, and the expressions of a scientific physician.

The first edition was issued in 1877, and the preface to the fourth tells us that "the chief portion of the present work remains in its original condition." Taking it up at any point and reading it, one feels that it is an old work, written twenty years ago. With the enormous amount of literature at the present day it is hard for such books to succeed, and we earnestly hope Dr. Day will in his next edition give us the pleasure of reading a much smaller, more concise and lucid book. A series of short graphic essays, vividly describing each variety of headache, would be a much less sleepy volume to read, and one which would be re-opened more frequently. A long list of formulæ is appended and referred to in the text.

PART III.

SPECIAL REPORTS.

REPORT ON PUBLIC HEALTH.[*]

By Sir Charles A. Cameron, M.D., D.P.H., Camb., M.R.C.P.I.; Ex-President and Professor of Hygiene and Chemistry, R.C.S.I.; President of the British Institute of Public Health and of the Society of Public Analysts; Medical Officer of Health for Dublin; Hon. Member of the Hygienic Societies of France, Belgium, Paris, Bordeaux, the Academy of Medicine, Sweden, and of the State Medical Society of California, &c.; Examiner in Sanitary Science, Royal University of Ireland; Member of the Army Sanitary Committee.

ON THE DURATION OF HUMAN LIFE UNDER VARIOUS CONDITIONS.

The duration of human life varies considerably in different countries, and is influenced by many conditions, chiefly social, industrial, geographical, and topographical. The investigation of the influence of occupation and other conditions on longevity is beset with many difficulties, and is sometimes pursued on fallacious lines; but, on the whole, it has resulted in the discovery of an immense number of biological facts.

INFLUENCE OF CLIMATE ON DURATION OF LIFE.

In tropical countries life is shorter than it is in temperate zones. According to the great French hygienic writer, Michael Levi, there is one death annually amongst every 25 of the population from the equator to twentieth degree of latitude, one death in 35 inhabitants from the twentieth latitude to the fortieth, one in 43 from the fortieth to the sixtieth, and one in 50 from the sixtieth to the eightieth.

At the time Levi made these estimates he probably understated the death-rate of at least Europeans in the tropics. The statistics of British authorities in reference to the mortality of Europeans in India, previous to 1864, show that the death-rate amongst them was nearly 70 per 1,000 in the case of soldiers, and at least 35 per 1,000 amongst the civil population. In some Indian cities the mortality was believed to exceed 60 per 1,000. In those times it must have been difficult to insure the lives of Indian officials, or of soldiers stationed in India, except on almost prohibitive terms. Things are now very different in that country owing to the great sanitary improvements effected within the last quarter of a century. During the five years ended in 1888 the death-rate of European soldiers per 1,000 was only 14·27. Owing to defective registration the death-rate in India is not accurately known, but it is believed not to exceed 27 per 1,000, or about 8 per 1,000 above the rate in England.

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[*] The author of this Report will be glad to receive any books, pamphlets, or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

The influence of a high temperature on man is enervating, even in the case of native races, but of course to a much greater extent on those who have migrated from cold or temperate regions to a tropical or sub-tropical one. Even a temperate climate may prove too warm for some races—as, for example, that of England for the Esquimaux, for it is a fact that the natives of the Arctic Circle soon die if transported to more southern climes. The question, can Europeans enjoy full measures of life, health, and vigour in tropical countries? has been frequently discussed. There seems to be a consensus of opinion that on the plains they cannot maintain themselves in health, or live so long as in their own countries. Even in elevated tracts in the tropics, where the air being rarefied the temperature is cooler than on the plains, it is doubtful if Europeans can become perfectly acclimatised. Although the mean annual temperature of the highlands of a tropical region may not be higher than that of the south of Europe, yet the atmospheric conditions will be very different. In those elevated regions the air is rarefied, and a much larger quantity must be taken into the lungs to supply the necessary amount of oxygen. This causes hurried and shallow, and often difficult, respiration. Fatigue cannot be so easily borne, and the lessened pressure upon the surface of the body may cause the blood-vessels to dilate, which is by no means a desirable effect.

The table-land of the Deccan in India, 2,000 feet above the level of the sea in some parts, and having the mildest climate in India, cannot, according to Surgeon-General Sir William Moore, be colonised effectively by Europeans. The Eurasian population, even those of pure European descent, are rapidly becoming a weak and pauperised class. On the other hand, we have the case of the Boers of the Transvaal, apparently proving that a European race can be perpetuated in a sub-tropical country. The Transvaal goes well into the equatorial regions, but its elevation—from two to eight thousand feet—gives it a comparatively cool climate. There are only about 60,000 Boers, but this people have resided sufficiently long in Africa to enable us to estimate the effects of climate upon them, and so far the Boers show no sign of degeneration.

The question, can Europeans thrive in elevated equatorial or sub-equatorial regions? has recently become specially interesting on account of the proposed colonisation of Mashonaland and other elevated countries in Africa. The duration of life in tropical countries would not be less than it is in temperate ones, were it not for the fevers which are so common in the former. In the United Kingdom only about one death in every nine or ten deaths is due to fever. In Dublin the fever death-rate, including such diseases as measles, whooping-cough, and diarrhœa, is about 2·5 per 1,000 of the population. In the ten years ended in 1890 the death-rate from fever in Assam was 14·55 per 1,000 persons living. In Berar the deaths from all causes in the decade ended in 1890 were in the ratio of 35·3 per 1,000; the death-rate from fevers being 15·9 per 1,000. The fevers did not embrace cholera, small-pox, dysentery, or diarrhœa, but no doubt they may have included some diseases which were not well-defined fevers.

In Bombay Presidency the deaths from all causes in 1890 were in the ratio of 28·18 per 1,000 of the population, the deaths from fevers being 20·96 per 1,000. If we take all the diseases which in these islands are termed zymotic, we find that in Bombay the death-rate from them was 23·52 per 1,000 in 1890; there was therefore only a death-rate of 4·66 per 1,000 from all other causes. In the large English towns the general death-rate is about 22 per 1,000, and the zymotic death-rate 3 per 1,000.

As fevers belong to the group of "preventable diseases," it seems not unlikely that improved sanitation may so alter the conditions of life in hot countries that a man may live as long in Calcutta or New Orleans as in London or New York, although he may not be able to work so hard in the former.

At present we have in one very hot country an illustration of what may be accomplished by sanitary measures. Ceylon has a mean annual temperature of 80° F. on the plains—that is, 30 degrees higher than in Ireland, yet the death-rate is only 23 per 1,000.

In Ceylon great attention has been paid for many years past to the subject of public hygiene. The towns are well supplied with good water, and filth is removed from the centres of population expeditiously and effectively. As there are still many sanitary defects to be remedied in this island, further improvements will probably equalise its death-rate with that of Great Britain. It may yet be found that Europeans, though not capable of working in the fields in hot climates, may enjoy in them full measures of health and longevity.

LIFE IN LARGE TOWNS.

The average duration of life is less in towns than in the open country. In rural districts the death-rate is about 17 per 1,000, whilst in some towns from 20 to more than 30 persons die annually per 1,000 of the population. With the exception of some Scandinavian towns, there are few Continental urban districts which have such small bills of mortality as the English towns have. But high as are the recorded rates, urban districts are even worse than they seem to be, and for the following reasons:—First, because towns contain a larger proportion of persons whose expectation of life is greatest. Secondly, the duration of female life is greater than that of males, and in towns there is a greater excess of females over males than in the country. The ages of the population are distributed by the Registrar-General of England and Wales into 11 groups—for example, under 5 years, 5 to 10 years, 10–15, 15–20, 20–25, and then in 10 year groups, 25 to 35, up to 75, and a last group of 75 and upwards. The death-rate per 1,000 persons of each of these groups varies considerably. In the first group the mortality is very great, usually about 68 for males, and 58 for females, per 1,000. The mortality is about the same in the group of persons aged from 65 to 75. Fewer persons die between the ages of 10 and 15 than at any other period of life, due regard being had to their relative numbers. In the population at large the proportion of persons under 5 is about 14 per cent., whilst there are only about 3·3 per cent. of persons aged from 65 to 75. From 10 to 35 the rate of mortality is very low.

Now about 25 per cent. of the population at large consist of persons of those ages; but in some towns the percentage of persons of this group is much higher. The mortality of males is about

10 per cent. greater than that of females. Now it follows from the foregoing, that the recorded death-rates of towns in which the females are relatively more numerous than males as compared with the whole population, or in which there is an excess of persons of ages of greatest viability, must be corrected. The English Registrar-General has for some years past corrected what may be called the crude death-rates, so as to make the urban mortality statistics comparable with those of the country at large. It is found that the corrections for age and sex distribution has added to the recorded rates in all the large towns, except Norwich and Plymouth, the rates recorded in which have to be slightly decreased. If we take the recorded death-rate for London, we must multiply it by the factor 1·0615 in order to arrive at the true rate. Manchester stands in the most favourable position amongst the English towns with respect to age and sex distribution. Thus its recorded death-rate, which was in 1890 30·57 per 1,000, became when corrected 34·06 per 1,000.

The Registrar-General for Ireland only gives the recorded death-rates for Ireland and its towns; but for some years past I have corrected the death-rate for age and sex distribution for Dublin, Belfast, and Cork. Sometime ago I re-calculated the death-rates in British and Irish towns, correcting former, and often very erroneous estimates, by the information given by the Census of 1891. That Census proved that the population of Liverpool had been over-estimated to the extent of nearly 100,000, whilst Belfast population, which was estimated to have increased from 1881 to 1891 at the rate of 1·3 per cent. yearly, had actually increased in the ratio of 2·5 per cent. Belfast is placed under more favourable conditions with respect to age and sex distribution than Dublin, and Dublin than Cork. I found that the crude death-rate of Dublin in the decade ended in 1890 was 26·8, but the corrected rate was 29·6. The crude rate in Belfast in this period was 24·5, and the corrected rate 28·1, whilst in Cork the recorded rate was 25·1, and the corrected one 27·4. In 1891 the corrected rate for Dublin was 28·2, for Belfast 29·3, and for Cork 29·4. In the period 1881–90 I calculated the corrected death-rate in the large English towns to be 23.

It is not satisfactory to find Irish towns having death-rates so largely in excess of the average rate for the English towns, which is all the more remarkable from the fact that in the Irish rural districts the duration of life is stated to be somewhat greater than it is in England. In Ireland then we may, without exaggeration, state that the duration of human life is nearly 50 per cent. less in the towns than in the country. The causes of the comparative unhealthiness of towns are numerous; some of them hardly admit of remedies, but the more serious ones can be effectually grappled with. The speedy and complete removal of filth from towns, the construction of good street sewers, the erection of healthy dwellings, the prevention of over-crowding in houses, the providing of open spaces in densely inhabited districts, the prevention of trade nuisances, and many other sanitary measures, including ample supplies of pure water, have greatly lessened the mortality of urban populations. It is not easy to provide remedies for the evils which are incidental to so many industrial occupations.

It would, however, be a mistake to believe that all classes are alike affected by the insanitary conditions affecting towns. On the contrary there are some sections of society among which the rates of mortality differ but little in town or country. These are the upper classes, and what we may term the upper strata of the middle classes. Provided with good food and warm clothing, residing in the most open parts of towns and in the best houses, and having during illness proper medical care and good nursing, we need not be surprised to find that even in Dublin people of those classes have a comparatively low death-rate. Dr. Grimshaw, the Registrar-General, has shown in his reports the different rates of mortality amongst the middle and professional and the working classes in Dublin. In his Report for 1892, it is stated that the deaths in families of the professional classes, including naval and military officers and heads of public departments, were in the ratio of 28·4 per 1,000 of the population belonging to that group, the rate in the families of the higher merchants and manufacturers was 21 per 1,000, in the families of "persons of rank and property, not otherwise described," 24·4, in the families of the general body of officials (civil servants, &c.) 16·2, in the artizan class and petty shopkeepers 24·8, and in the general service class, including workhouse inmates 37·3. Some extraordinary facts are shown in these statistics; for example, although the mortality in the general service class is so enormous, in one division of it, namely the 39,967 domestic servants, it is very low, namely, 11·9. The low mortality in this class is probably chiefly due to the fact that but few young children belong to it, and that the great majority of domestic servants are of ages at which there is a very low rate of mortality. The death-rate amongst the persons belonging to the clothing trade is only 16·6, whilst amongst the building and furnishing trades it is 29·4. The proportion of children under five years old is much smaller in the group comprising the clothing trade than in the families of the persons engaged in the building trades, and in the former females, no doubt, greatly exceed the males, and having a lower death-rate reduce the general rate of mortality of their class. I confess, however, that I cannot understand why the death-rate should be 26·4 amongst the professional classes and heads of departments, seeing that they are well housed, fed and clothed, and that they live in the cleanest and most airy parts of the city and its suburbs. The professional and independent class, which includes the professions, army and navy officers, heads of departments, and persons of rank and property, have a death-rate of 26·1, whilst the rate is only 20·4 in the middle class (civil servants, bank clerks, traders, commercial assistants, and residents in second class houses). The English and Scotch Registrars-General do not give the occupations of those whose deaths they register, but it would be desirable if they followed Dr. Grimshaw's example. The statistics collected in Dublin could then be compared with similar statistics obtained in English and Scotch towns, and some general conclusions of a useful character deduced therefrom.

TOPOGRAPHICAL INFLUENCES ON LONGEVITY.

The mortality caused by several diseases is influenced, and often considerably, by the physical geography and geological formation of country. Mr. Alfred Haviland has shown that wherever the winds that blow from the sea cannot penetrate, there is a high mortality from heart diseases. This is the case with the valley systems which have axes at right angles with the prevailing sea-winds and tidal waves. The same author has shown that the highest mortality due to cancer occurs where the clays of different formation abound, and are liable to be flooded by rivers. On the chalk districts deaths from cancer are less frequent than on the clays. During the period 1851–70 the deaths annually caused by cancer amongst women thirty-five years old and upwards, were in the ratio of 14·4 per 10,000 females living. The deaths on the chalk during this period were 22·9 per cent. fewer than those on the clays.

I found, from a study of the distribution of typhoid fever in

Dublin, that the deaths caused by this disease are 50 per cent. greater on the gravels than on the alluvian or clays. Sir George Buchanan, Dr. Kelly, and others have pointed out the high death-rate from phthisis which prevails on wet soils, especially if the situation is bleak. The thorough drainage of some towns has led to a remarkable diminution in the mortality caused by phthisis—as, for example, in Salisbury to the extent of 49 per cent., in Leicester 31 per cent., in Bristol 22 per cent. A careful investigation into the distribution of phthisis in Surrey, Kent, and Essex, proved that it prevailed most on low-lying and impervious soils. The disease was less on sloping than on flat lands. The researches of Dr. Bowdich in the United States have also shown the correlation of damp soils and phthisis. In Scotland the towns having least phthisis are Edinburgh and Leith, which are built on dry sites; whilst Glasgow and Greenock, which are situated on very damp sites, are ravaged by phthisis.

The mortality caused by diarrhœal diseases is much influenced by topographical conditions. Dr. Ballard, of the English Local Government Board, says that the one condition which gives an almost absolute immunity from these diseases is to have one's house built on a hard and impervious rock. On what is called made ground deaths from diarrhœa are very numerous. In this respect Leicester has an unenviable notoriety, and has the highest death-rate from diarrhœa in the United Kingdom.

One of the most interesting of modern discoveries in the domain of pathology is that relating to the connection between tetanus or lockjaw and the soil. It seems that it is a peculiar bacillus or micro-organism, which exists in soils, that gives rise to tetanus. The bacilli are most abundant in cultivated soils, but they may exist in the mud of streets, and even in the dust in houses.

The deaths from diphtheria appear to be on the whole more numerous in country districts than in great centres of population, though lately it is increasing in the latter places. It occasions a very trifling mortality in Dublin. In Wales and the northern counties of England it is common, whilst in the midlands and the south of England it causes but a small fatality. It is a very fatal disease in the United States.

Great density of population is a prime factor in causing a high death-rate. Dr. Gairdner, of Glasgow, has shown that in the rural districts of England, where the population on a square mile was only 56, the death-rate was 15 per 1,000 persons living, the districts with a population of 106 per square mile had a death-rate of 16, those with 202 per square mile a rate of 20, and the death-rate increasing directly as the density of the population increased, came to be 27 and upwards in districts containing 2,900 persons to the square mile.

INFLUENCE OF OCCUPATION ON LIFE-DURATION.

The occupation of persons has considerable influence upon their health and longevity. Some of the pursuits of man are eminently health-giving, whilst others tend to abridge the period of life.

The statistics showing the influence of occupation upon life-duration relate nearly altogether to males, there being very few showing the effect of different kinds of employment on females. One of the most eminent authorities on mortality in relation to occupation is Dr. William Ogle. He has shown the death-rate of men belonging to various professions and trades; the ages of the men being from 25 to 65. He takes the rate amongst clergymen as a standard, being the lowest, and represents it by the figure 100. The following figures represent the comparative mortality in different occupations, taking the 100 as a standard :—Lawyers, 152; medical men, 202; commercial clerks, 169; commercial travellers, 171; gardeners, 108; farmers, 114; shopkeepers generally, 158; shoemakers, 166; tailors, 189; masons and bricklayers, 174; carpenters and joiners, 148; cabinet-makers, 173; paper-makers, 129; printers, 193; millers and bakers, 172; agricultural labourers, 126; fishermen, 143; cab and omnibus men, 267; coal miners, 160; Cornish miners, 331; quarry-men, 202; butchers, 211; bookbinders, 210; file-makers, 300; scissors-makers, 229; earthenware-makers, 314; brewers, 245; innkeepers and liquor dealers, 274; inn and hotel servants, 397; costermongers, hawkers, and street-vendors, 338; cotton-workers, 196.

These statistics show that persons whose occupations keep them in the country, such as farmers and agricultural labourers, have low rates of mortality, whilst the workers in factories, and even the town shopkeepers, are comparatively short-lived. One of the most serious factors in shortening life is constrained position of the body; stooping over work, and pressure upon the chest—say upon the breast-beam of the loom—prevents free respiration, and contracts the capacity of the lungs. The well-known dyspepsia of the shoemaker, with its attendant train of evils, results from prolonged pressure of the last upon the pit of the stomach.

The high mortality of the persons engaged in cutlery, cotton and linen works, in mining, and in making earthenware, mainly arises from the inhalation of dust of various kinds into the lungs. In the case of the factory workers respiration of impure air is also a factor. The enormous mortality of persons engaged in the sale or service of alcohol is, of course, merely the result of intemperance. These persons die from disease of the liver to an extent six times greater than the population at large.

If we take fishermen as a standard, and represent their mortality from phthisis and lung diseases by 100, then the mortality caused by these maladies will be 170 in the case of carpenters, 201 in bakers, 166 in coal miners, 234 in wool workers, 274 in cotton workers, 229 in masons and bricklayers, 383 in scissors makers, 393 in file makers, 565 in stone and slate quarry men, and 579 in Cornish miners.

All kinds of dust are not equally injurious. For example, the large volumes of dust in flour mills appear to produce very little effect on millers. On the other hand stone and clay dust appears to be extremely injurious when inhaled.

We are much indebted to Dr. Bertillon for valuable statistics of the mortality in different occupations. He is the head of the Statistical Department of the Municipality of Paris, and the author of various works on demography and vital statistics. I quote a few of the statistics which he brought under the notice of the International Hygiene Congress in 1891. He shows that in Paris out of every 1,000 clergymen aged 20 to 29 5 die annually, from 30 to 39 8·2, from 40 to 49 9, and from 50 to 59 30·5. At the earlier ages the death-rate is exceedingly low, but the sudden rise from 9 between the ages of 40 and 49 to 30·5 from 50 to 59 is surprising. The vendors of milk, butter, eggs, cheese, fruit and fish have a very low mortality—namely, 5·7 from 20 to 29, 9·9 from 30 to 39, 11·8 from 40 to 49, and 17·4 from 50 to 59. Barristers have a death-rate of 9·8 per 1,000 from 20 to 29, 11·6 from 30 to 39, 11·1 from 40 to 49, and 22 from 50 to 59. Medical men aged from 20 to 29 die at the rate of 9·9 per 1,000 living, at from 30 to 39 11·3, from 40 to 49 9·8, and from 50 to 59 22·8. Amongst carpenters the rates at the four periods are 10·5, 18·8, 24·3, and 30·7. The occupations which are most strikingly associated with high rates of mortality are those of the baker, liquor dealer, worker in stone, painter, plasterer, plumber, bootmaker, printer, lithographer, engraver, ironmonger, coachmaker, hosier, and persons connected with the administration of omnibuses, hackney carriages, &c. Amongst the healthy occupations may be enumerated: horticulturists, foundrymen, sword cutlers, coppersmiths, tinsmiths and coopers. The death-rate is very low amongst the upholstery and furniture dealers—namely, 6·7 per 1,000 at the ages 20 to 29, 10·6 from 30 to 39, 14·5 from 40 to 49, and 22·7 from 50 to 59. The deaths amongst the male population of Paris are in the ratio of 11·1 per 1,000 at the ages 20 to 29, 14·9 from 30 to 39, 21·2 from 40 to 49, and 31 from 50 to 59. Persons engaged in the postal and telegraph services have very low rates of mortality at all ages; and still lower are the rates amongst the grocers. For example, 44·1 of every 1,000 plumbers aged from 50 to 59 die annually, whilst only 11·4 grocers of the same ages die per 1,000.

In some professions the mortality is comparatively low at certain ages, and very high at other age-periods. For example, in the service of the banks and assurance companies the mortality is high at the ages 20 to 29—namely, 17·5, or 6·4 above the mean rate for all classes at those ages; but from 30 to 59 the deaths are 30·7, or 0·3 below the mean for the whole population. Notaries, attorneys and their clerks, and officers of the law courts, die between 20 and 29 at a rate 0·8 below the mean rate for the whole population at those ages, whilst at from 50 to 59 they die at a rate exceeding the average by no less than 11·3. Pharmacists and herbalists have very low rates at all ages. Out of every 1,000 horseshoers aged from 50 to 59 43·8 die annually, whilst only 15·7 pharmaceutists die under similar conditions.

INFLUENCE OF MARRIAGE ON LONGEVITY.

Bertillon has studied the influence of matrimony on longevity, and his results are eminently encouraging to the candidate Benedicts. They apply to France, Holland, and Belgium, but no doubt are applicable to our own countries. They are of so startling a character that if they were put forward by a less eminent vital statistician than Bertillon, they would hardly be credited. He tells us that from 25 to 30 the married men die at the rate of 6 per 1,000, the unmarried at the rate of 10 per 1,000, and the widowers in the ratio of 22 per 1,000. From 30 to 35 the death-rates amongst these classes are 7, 11, and 19·5 per 1,000 respectively. At greater ages the same favourable difference exists in the case of the Benedicts *versus* the celibates. It is curious that widowers are more likely to die than men of the same age who have never been married. The only exceptions to the low mortality of Benedicts are in the case of those who marry at very early periods of life. It may be well that very youthful persons who desire to worship at the shrine of Hymen should know that married men, or rather boys, aged from 18 to 20 die at the same rate as men aged from 65 to 70.

Marriage is not so favourable to longevity in women as in men. No effect is observed until after the age of 25. Spinsters aged from 30 to 35 die at the rate of 11 per 1,000; wives of the same ages in the ratio of 9 per 1,000. The mortality is greater in the case of wives under 25 than in that of spinsters of the same ages. After 40 the longevity of married women is much greater than that of spinsters of corresponding ages. Middle-aged widows do not live so long as middle-aged wives or spinsters. A man who marries at 25 has a mean expectation of 40 years more of life, but the unmarried man of same age diminishes by 5 years the after duration of his life by remaining single.

MENTAL INFLUENCES.

Psychological as well as physical influences may shorten or prolong life. When men are in easy circumstances, and have no serious domestic troubles, they are more likely to live longer than those whose minds are in a chronic state of anxiety owing to insufficency of income, or to sickness, death, or other misfortunes in their families. Irregularities in mode of living, the violation of the obvious laws of health, indulgence in vices, all tend to curtail man's sojourn in this world. The calm lives of the clergy, and their certain income, though it may not be a large one, accounts for their longevity. I may here remark that the Protestant clergy live longer than the Roman Catholic. As the latter are celibates, Bertillon's statistics would account for their high mortality, but there may be other influences.

The length of life attained by annuitants is proverbial. The experience of the Australian Mutual Provident Society shows that in the case of male annuitants out of every 100 expected deaths amongst them only 85·6 actually occurred, whilst of every 100 expected deaths of female annuitants only 67·9 took place.

We have other proofs of the good influence which a contented mind exercises upon the conditions of the body. For example, Mr. C. G. Stenhouse has shown in a report on the experience of lives in the Scottish Widows' Fund, for fifty years ended 1884, that the rich insurers lived the longest. That is, that the mortality was greatest amongst the lives assured for the smallest sums; in other words, the larger the amount of the risk the better was the ratio of mortality. Persons who assure their own or others' lives for small sums, belong to what has been aptly termed the "Uneasy Classes," whose minds are ever filled with anxious thoughts as to how they are to make both ends meet, and provide for the future of their children. It is worth noting that whilst the best lives in the United Kingdom are those which are insured for large sums, the contrary is the case in the Colonies and the United States. No doubt this is due to the fact that the capitalist in the new countries is generally a speculator, and does not lead the same tranquil life which is enjoyed as a rule by the moneyed classes in the old countries. In the New World the capitalist makes his capital, in the Old he usually inherits it.

TOBACCO AS A MICROCIDE.

Very few hygienists have a good word to say for tobacco; on the contrary, there is an extensive literature showing its injurious effects, especially upon the heart. An anonymous writer in the *Journal d'Hygiene* for 18th April, 1893, extols it as an excellent microcide. He quotes numerous experiments published in the *Italia Termale* for 21st February, 1893, by Doctor Tassinari. After detailing his researches in referring to the action of tobacco smoke upon microbial life the Doctor deduces from them the following conclusions:—

1st. The smoke of cigars (Cavour, Virginian, or Tuscan) and black and cut tobacco possesses a very marked bactericidal power, and is especially antagonistic to the bacillus of Asiatic cholera.

2nd. The microcidal action of tobacco smoke is in all probability due to empyreumatic products of the combustion of nicotin.

3rd. During epidemics of cholera and typhus fever, the use of tobacco may be useful rather than hurtful.

4th. Tobacco smoke deserves special consideration in reference to the hygiene of the mouth, as it seems to be a prophylactic against microbial affections of the buccal cavity.

The anonymous writer (Dr. de F.) gives us a recollection of his youth. In 1832, when Asiatic cholera was epidemic in Paris and threatened to extend to the Mediterranean departments, he smoked his first cigar. Not usual with *débutants* in smoking he suffered no unpleasant effects, but did not derive any pleasure from the performance. However, the smoking continued seemed to him to act as an anticholeraic, or we would now say a bactericide.

EPIDEMIC PANCREATITIS.

Dr. Ernest Frederick Gardner, in a pamphlet published in the present year by Adlard and Son, Hanover-square, London, advances the theory that a species of epidemic influenza (so-called) prevails in England which he considers might aptly be termed epidemic pancreatitis. It attacks subjects of all ages, both sexes, and of all ranks in life. Females, especially those who suffer from constipation, are peculiarly liable to it. He gives the following description of the symptoms:—

"The attack is occasionally preceded by a feeling of lassitude or languor for a day or two, and a disinclination to make even slight exertion, but more frequently the onset is sudden, and characterised by a sense of shuddering down the back, sometimes amounting to a rigor, pyrexia, headache, sickness, pain in the abdomen or back, and distressing giddiness. In children the disease is often ushered in by convulsions.

"The temperature ranges usually from 100° F. to 104° F., the height seemingly being dependent upon the severity of the attack, although I have found the thermometer to register a subnormal temperature.

"The pulse is rapid, feeble, and often dicrotic, and always markedly compressible.

"The respiration is quickened, and frequently shallow and sighing.

"The appearance and feelings of the patient are those of severe illness. The complexion is sallow, with a circumscribed flush upon one or both cheeks, giving way to the most death-like pallor. The lips are dry, cracked, and bloodless. The tongue is large, flabby, and coated with a moist, white or buffy fur, except at the tip and edges, where it may be red and indented by the teeth. At times it is parched and brown, more particularly in the centre. Occasionally there is slight sore throat.

"The skin of the head and trunk is hot, dry, and harsh, subsequently being followed by a sour-smelling sweat, whilst the extremities are cold to the feelings of the patient and chilly to the touch. This chilliness is often replaced by heat. Many varieties of skin eruption may be present. Palpitation of the heart is a common symptom.

"The headache varies as to character and position. Generally it is described as if a constricting band were tightly tied around the forehead, by some as darting and shooting pains through the temples, by others as a sensation of great weight or pressure on the top of the head, whilst in many there is pain in the back of the neck, darting to the head.

"Sickness is usually present, but not invariably so. The retching and vomiting may be among the more urgent symptoms and most troublesome to treat, and these are often associated with nausea and flatulence. The vomit is usually yellowish or greenish in colour. Retching is in many instances followed by a considerable discharge of flatus, and when such occurs the headache is greatly relieved.

"There is frequently a troublesome cough, coming on in violent paroxysms and terminating in retching and prostration, but on examining the chest there is an absence of physical signs to account for it.

"The abdomen is usually full, particularly in the epigastric region, and uniformly resonant. There may be pain of a constricting, burning, or gnawing character, referred to the upper half of the abdomen. In many the most pain is situated in the back, this being increased by pressure on the upper part of the abdomen.

"There is enlargement of neither liver nor spleen. The attack is often ushered in by diarrhœa, but constipation is more commonly present. The state of the bowels, however, varies considerably, the one giving way to the other. The stools are usually greenish or greenish black, slimy, and particularly offensive. I have in no cases been able to detect the presence of fat. The stools are in no way characteristic of those of enteric, for which it may sometimes be probably mistaken.

"Giddiness is a constant symptom, and certainly one of the most distressing. This occurs on the slightest movement of the patient. It is most persistent, and remains after convalescence seems otherwise fairly established. There is great thirst. Epistaxis is occasionally present and usually profuse, coming on at the height of the attack. The urine is little in quantity, high in colour, and loaded with lithates, but, strange to say, within an hour or two the patient may pass large quantities of pale limpid urine, and this may be followed again, within a short period of time, by very scanty and concentrated urine. Hæmaturia has occurred in two cases. There is neither albumen nor sugar. The nervous symptoms are many. There is restlessness and inability to sleep. Sleep is disturbed by dreams, often of a distressing character, causing the patient to moan or start, as though some serious calamity were pending. Some feel drowsy, but are unable to close their eyes, for the moment they do so they have the sensation as though they were falling, whilst others are unable to lose themselves in sleep; in such, vision is often disturbed by imaginary creatures such as insects, reptiles, &c. Many will tell you that when the headache has entirely left them there still remains an indescribable feeling which is not pain, but a sensation as though they were going out of their minds. Such patients are afraid to be alone.

"Other nervous phenomena are often present, such as tinnitus aurium, loss of smell and taste, tingling and numbness of the extremities, and loss of muscular power, sometimes attacking one side only, sometimes both. There is always great depression.

"Menstruation is much disturbed and often profuse. It frequently reappears when a patient is taken ill, although she may have menstruated only a week before, and have been previously quite regular. Girls seem liable to be attacked at the menstrual period, which may in consequence be associated with the various phases of hysteria. On the other hand, there seems to be no prejudicial influence exerted on the gravid uterus, pregnancy continuing without interruption to the full term. Labour in those actually suffering from the complaint appears to be unattended by any unfavourable complications."

The principal complications and sequelæ of the disease are pneumonic pleurisy, congestion and pulmonary œdema. In two cases phlebitis, involving the veins of the leg, occurred. Periostitis is an occasional complication. Hepatic derangement is common. Peritonitis occurs generally, but usually locally only. Anæmia and constipation are troublesome sequelæ, especially in infants.

In diagnosticating this disease the maladies most likely to be confounded with it are enteric fever, meningitis, acute tuberculosis, and gastritis. From the first of these diseases it may be discriminated by the absence of the characteristic eruption, stools, and temperature, and by the situation of the pain and tenderness. From meningitis, by the presence of abdominal pain and absence of optic neuritis. The author says that from gastritis it may be distinguished by the "total absence of gastric symptoms." If so, how can gastritis be one of the diseases with which it is most likely to be confounded?

PREVENTION OF PHTHISIS.

The following memorandum has been issued by the North Western Branch of the Society of Medical Officers of Health as to the prevention of phthisis:—

"1. It has been abundantly proved that 'phthisis' or 'consumption' is an infectious disease.

"2. It does not appear that this disease is very, if at all, infectious through the breath of a patient; but it is quite certain that it is infectious by means of the *sputum* (expectoration) which a sick person coughs up from his diseased lung.

"3. The means for preventing the spread of phthisis, therefore, from person to person, are made very simple by reason of the infective material being easily recognisable.

"4. The manner in which phthisis is usually spread from one person to another by means of the sputum is as follows:—

"(*a*.) A consumptive patient coughs up a quantity of sputum, in which are enormous numbers of the specific germs, *Bacilli tuberculosis;*

"(*b*.) The sputum lodges where it is spat on, and there dries;

"(*c*.) When dried, the sputum is usually pulverised and floats in the air as dust;

"(*d*.) The germs contained in the sputum, though dried, are still living, and able to infect the air in which they are suspended;

"(*e*.) The infected air when breathed is liable to cause phthisis. This is more particularly true of people who are already suffering from phthisis and whose recovery is thus prevented.

"5. All phthisical sputum must, therefore, be burned or efficiently disinfected if any decided measure is to be taken to prevent the spread of phthisis from person to person:—

"(*a*.) The sputum from consumptive people should be at once burned by being spat into the fire, or, better still, spat into a piece of paper or a rag, which should be at once burned;

"(*b*.) Sputum may, however, be spat into a glass or porcelain vessel containing a 15 per cent. solution of carbolic acid, or (if carbolic acid cannot be obtained) simply some water. The contents of this vessel should be emptied once a day into the sewer outside, after which the vessel should be washed with boiling water and recharged;

"(*c*.) All persons affected with a cough which has become chronic should, when attending a workshop, assembly, or church, spit into a hand-glass spittoon containing the aforenamed disinfecting solution. Such a spittoon may be conveniently attached to the person;

"(*d*.) No person suspected to have consumption should spit into a pocket-handkerchief, or into a rag, or on clothes, unless such be forthwith burned;

"(*e*.) No person, *whether consumptive or not*, should on any account spit on the floor or walls of any room, railway carriage, or public conveyance;

"(*f*.) The eating utensils of a person suffering from consumption should be kept separate from all eating utensils of other persons, and should be washed separately from others in boiling water as soon after their use as possible;

"(*g*.) The clothing of a consumptive person must be washed separately from the clothing of other persons;

"(*h*.) The bowel discharges of a consumptive person should be disinfected with the aforenamed solution (*b*), and soiled linen should be at once boiled;

"(*i.*) A consumptive patient should, as far as possible, occupy a separate room or rooms; and where this is not possible special care should be exercised in destroying the sputum and excreta of the patient;

"(*j.*) The furniture of a consumptive patient's room should be as simple and plain as possible, without fluting or carving which provide lodgment for dust; especially should hangings and unnecessary carpets and rugs be avoided;

"(*k.*) When it is settled that any member of a household is consumptive, the whole house should be at once thoroughly cleansed, including the walls and ceilings; the furniture and floors should be washed with water as near boiling temperature as possible and containing carbolic acid in the proportion of 4 tablespoonfuls to a gallon of water; the walls should be cleaned down with the crumb of bread, the ceilings whitewashed, and clothing and bedding disinfected by steam or by boiling as in the case of any one of the other infectious diseases;

"(*l.*) The walls, floors, and ceilings of the living and sleeping rooms of persons suffering from phthisis should be cleaned and disinfected in the foregoing manner once in every two months;

"(*m.*) The room or rooms of a consumptive patient should, in the event of death, be disinfected as after death from one of the infectious diseases.

"6. There are several further practical measures which may be taken to prevent the contraction of the disease, and which are not difficult to carry out:—

"(*a.*) A mother who is suffering from consumption should on no account be allowed to suckle her child;

"(*b.*) All cow's milk, *especially that for the use of children*, should be thoroughly boiled before being drunk. There is no sort of legitimate doubt that tuberculosis in children is largely caused by the use of unboiled milk from consumptive cows. There is no truth in the belief that boiled milk loses its strength or is less digestible;

"(*c.*) All meat should be thoroughly well cooked, and not be eaten underdone;

"(*d.*) The lungs of all people should be more thought of and cared for by themselves than is at all common at the present time;

"(*e.*) The dwellings of all people should be well and freely ventilated at least once in every day, and all dark corners and recesses therein should be kept scrupulously clean;

"(*f.*) The lungs of all persons should be specially protected from the bad influence inseparable from damp and overcrowded dwellings, and from dusty occupations.

"(*g*.) Some household pets (for example, cats) are susceptible of tuberculosis, and if suffering from any chronic disease should be destroyed.

"7. If the general public, and those who are sufferers from phthisis, would undertake to put the foregoing advice into actual practice, there can be no question but that there would in the next few years be a marked decrease in the fatality from phthisis in this country. Moreover, as it has been shown that phthisis, in its less advanced stages, is a *curable* disease, there is every encouragement to adopt these protective and hygienic measures for the benefit of a patient suffering from the disease."

THE ITALIAN PHARMACOPŒIA.

AFTER six years' labour the Committee appointed for producing a National Pharmacopœia for Italy have completed their labours, and the *Pharmacopea Ufficiale del Regno d'Italia* is published. MM. Professor Moleschott, G. Cocconi, A. Corradi, L. Guareschi, C. Tacconis, D. Vitali, and L. de Cesaris formed the committee of publication. Professor Moleschott was appointed president and L. de Cesaris secretary. The book consists of 443 large octavo pages. The formulæ, which number 600, are given in Italian, and are classified as follows:—Chemical preparations, 200; Galenical, 230; crude products, 170. The Italian, Latin, and chemical names of chemical preparations are given in the order named, *e.g.*—Acide benzoique, acidum benzoicum, acide benzolmonocarbonique. Tests for the purity and strength of the preparation given are simple and practical. The minimum amount of the active principle in such products as cinchona, belladonna, aconite, and soforth, is stated. Amongst the new remedies included in the list are—Acetanilide, antipyrine, camphre monobrome, eau oxygénée, guaiacol, iodol, lanoline, menthol, phénacétine, quebracho, sulphonal, thymol, and vaseline.

MERCURY.

MERCURY is now being produced in the Caucasian provinces of Russia. Each year the mines are said to produce 320,000 kilogrammes of pure mercury.

IODOZONE.

AT the meeting of the *Académie des Sciences* on the 21st of March, M. Robin described iodozone, a liquid compound, produced by the combination of iodine and ozone. It is a clear, innocuous liquid, void of any irritating properties; a powerful disinfectant; forms a useful application to ulcers, and may be used as a mouth wash.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

CLINICAL RECORDS.

Case of Myxœdema treated by Injection of Sheep's Thyroid at Mentone.

By J. K. Barton, M.D., F.R.C.S.I.

A lady, aged fifty-eight, married, no family, is affected with many symptoms of myxœdema, for which she has been under the treatment of a distinguished London physician. He prescribed phosphorus internally and sent her out of England to avoid the cold of our winter. She came to Mentone, and for the past six weeks has been taking phosphorus without any good effect.

Her appearance is characteristic, lips thick, nose also, eyelids puckered, cheeks puffy, hands greatly swollen, and lately very prone to slight suppurations. Her fingers have increased so much in size that she has been obliged to have her rings enlarged three times. Her feet are also so much swollen that she now requires boots two sizes larger than was her custom when well.

The history of her ailment is as follows:—Three years ago she had a great sorrow; then for the first time she found her feet and ankles were swollen in a peculiar way, *not* pitting on the pressure of the finger. It was a year after this, that is two years ago, that her face became remarkable, specially the upper lips and cheeks, and simultaneously she found her strength failing. She had previously always enjoyed good health and good spirits, which are changed to a most painful depression, and a strange apathy comes over her, depriving her of the wish to do anything. Two years ago, her husband, finding these symptoms continuing, consulted a London physician, who called the disease gout, and prescribed accordingly, but without any good effect. Soon after, the patient had a severe attack of influenza, which caused great debility. She went out too soon, got a shivering, which was followed by an abscess in her neck; her tongue and throat became so greatly swollen as to cause a feeling of choking and great difficulty of swallowing and indeed of speaking. A surgeon having been called in opened the abscess. He inserted a drainage tube, which was left *in situ* for several weeks. The myxœdematous symptoms seem to have become more pronounced after this, and she was sent to the South of France.

Thursday, Jan. 26, 1893.—The first injection of extract of sheep's thyroid was given this day, in the right shoulder. The fluid was perfectly clear, supplied by a French chemist of Lyons. It gave no burning or pain. The patient was directed to remain quietly on the sofa in her room for the rest of the day. Evening temp., 97° F.; no pain or uneasiness whatever.

Sat., 28.—Second injection was given below scapula. I cannot trace any symptoms to the injection. The patient seems just the same, but complains of a disagreeable feeling of faintness, lasting for only a few seconds, but she has suffered from that *before* I began the treatment. In all other respects she continues as before very depressed and bothered.

Mon., Jan. 30.—Third injection. Patient feels better; but, as yet, I do not see any very decided effects produced by the treatment, nor have the injections had any local or general ill-effects.

Feb. 1.—Fourth injection. The first made with the extract obtained from Brady and Martin, of Newcastle-on-Tyne. I injected 15 *drops;* a burning feeling was immediately complained of, followed by a throbbing pain and soreness. In afternoon patient said the soreness is less; it is quite bearable. Will it gather into an abscess? But she slept well during the following night, and reported herself quite free of soreness or pain next morning.

Feb. 3.—Fifth injection. No soreness from this.

Feb. 5.—Sixth injection. Made with the extract from Lyons. No soreness. All symptoms improving, except deafness and a numb feeling about the head.

Feb. 7.—Seventh injection.

Feb. 9.—Eighth injection. The deafness and occasional faint feeling remain, thickness of tongue better or gone, speech clearer. Feels weak. I order 3 grs. of lactate of iron, and gr. $\frac{1}{60}$ of arsenious acid twice a day.

Feb. 11.—Ninth injection. All signs of myxœdema disappearing satisfactorily.

Feb. 13 and 15.—Tenth and eleventh injections. The extract which I had from Lyons was now used up, and the supply from Brady and Martin, ordered some days ago, had not arrived. So no further injection was given until the 21st February; thus a week elapsed without the extract being used. No ill effects could be perceived.

Feb. 21.—Twelfth injection. The French extract was again injected.

Feb. 23rd.—Thirteenth injection. The English extract, prepared by Brady and Martin, was used. It gave rather more pain than the French.

Feb. 25.—Fourteenth injection. The French extract was again injected.

In conversing with the patient and with her sister I see clearly that she had fallen back somewhat during the week the remedy had been stopped. The chief symptom of this was a sort of megrim in her head; she felt sick and rather faint. This has come several times in the day lately. She says the duration of these feelings is less than it used to be, but it is too frequent. No injection for three days.

Feb. 28.—Fifteenth injection. Three days' interval. The English extract was injected. In reply to queries, the patient gave me to understand that she felt *much* better, and only hesitated to say she was quite well on account of the disagreeable feeling she has had sometimes in her head. The needle gave sharp pain to-day, and for a minute the patient was faint.

March 2.—Sixteenth injection.

March 5.—Seventeenth injection. Patient says she feels much better now than when she came to Mentone, and feels quite different; that before she used to feel a curious kind of film round her head and ears, making her feel most stupid. This has quite gone.

March 8.—Eighteenth injection. The French injection was given; on the 9th and 10th, patient had several faint feelings, coming on and going off for hours. She became greatly depressed, the other and more characteristic symptoms were not at all present.

March 11.—Nineteenth injection. The English injection was used. Patient better; in good spirits.

March 14.—Twentieth injection. English extract given.

March 17.—Twenty-first injection. French extract given. Very good report. No faintness; deafness seems gone.

March 20.—Twenty-second injection. I injected French extract.

The last injection (twenty-third) was given on March 30. Her condition upon leaving Mentone was in all respects satisfactory.

GASTRO-ENTEROSTOMY.

H. Tuholske, M.D., records (*Medical News*, Philadelphia) a case of pyloric obstruction treated by forming an anastomosis between the duodenum and the stomach, and removing the tumour. Seven months afterwards the patient died from epidemic diarrhœa; the opening between the stomach and the bowel had become very small, only allowing the passage of a lead pencil.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—**George H. Kidd**, M.D., F.R.C.S.I.
General Secretary—**W. Thomson**, F.R.C.S.I.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—**Humphrey J. Broomfield**, F.R.C.S.I.
Sectional Secretary—**A. Birmingham**, M.D.

Thursday, March 16, 1893.

The **President** in the Chair.

The **Secretary** read a communication from the Secretary of the International Medical Congress inviting members to attend and to contribute papers.

Exhibits.

Professor Fraser exhibited photographic enlargements of several sections of the adult and other mammalian brains, showing, among other details, the course of the various tracts of the white fibres, &c.

The **President** said the Academy ought to be very much indebted to Professor Fraser for those entertaining specimens, and for the enormous amount of labour which he has bestowed on them. He hoped that Professor Fraser would again bring this subject under their notice in a practical way. He thought that the Academy and science at large would be indebted to him for this labour and thought, which very few men would have either the skill or the determination to execute.

Dr. W. H. Thompson made a communication on the physiological action of atropin and morphin on the secretion of urine, in which he detailed the results of a series of experiments carried out by him in Professor Ludwig's laboratory, with the object of discovering the action of the two drugs mentioned on the secretion of urine in dogs.

Dr. Purser said he could not quite see that morphin would diminish the blood-pressure so markedly. He saw cases of animals poisoned with morphin and the blood-pressure was remarkably high. He made experiments himself on morphin poisoning in rabbits, and found the blood-pressure in the carotids to be 200 mm. of mercury. He thought the Academy was greatly indebted to Dr. Thompson, his experiments and results were a further proof of the importance of the cells of the kidney in the secretion of urine, and they showed that it is not a mere filtration that takes place.

Dr. Thompson agreed with Dr. Purser that 200 mm. of mercury was very high for a rabbit's blood-pressure. He found, however, in one experiment that the pressure fell from 116 mm. to 30, and subsequently rose until it reached a point equal to 116 mm. This occurred in three consecutive experiments.

Law of Transverse Vibrations of Strings applied to the Human Larynx.

Dr. Robert H. Woods read a paper on the "Law of Transverse Vibrations of Strings applied to the Human Larnyx." Having shown that the mechanism of voice production must be obedient to the law

$$n = \frac{1}{2l}\sqrt{\frac{t}{m}}$$

where n is the number of vibrations per second, l the length of the chords, t their tension, and m the mass per unit of length, the author went on to say that if the tension alone modifies the pitch it must increase enormously quicker than the rate of vibration. Thus, the tension required in order that the voice may emit a note an octave above a given one will not be in proportion to their rates of vibration, which is 2 : 1, but in the squares of that ratio, or 4 : 1, and similarly for a two octaves' interval the tension ratio will be 16 : 1, for three octaves 64 : 1—showing that a limit is very rapidly put on the pitch and the necessity for the introduction of other modifying factors.

The function of the thyro-arytænoideus internus was discussed, and the conclusion arrived at that it was not a relaxer of the vocal chords, as maintained by Grützen ("Hermann's Handbuch") and others, but a tensor, and that its external vertical irregular fibres had for their function the fixing of the outer part of the chord, thus damping the vibrations of that part, reducing the vibrating mass of the chord, and so, as seen by the formula, raising the note.

The depth of the voice in pathological conditions where the chords were thickened was referred to and shown to be due to the increase of the mass per unit of length.

The **President** said they were all much indebted to Dr. Woods for his paper, which was a subject which he (the President) considered most interesting and full of subject for thought. He considered Dr. Woods had made most of his points very clear and had brought forward much original and ingenious matter. He, however, wished to question one point—viz., that the crico-arytænoidei laterales tensified the vocal chords and thus raised the pitch of the note. Of course, if this movement of the anterior points of the arytenoids could continue still further in an inward and backward direction after the vocal process had been rotated in, Dr. Woods' contention would hold good.

Dr. Birmingham said it was new to him to hear that the internal part of the thyro-arytenoid might be looked upon as a tensor. He found it hard to agree with the idea of Dr. Woods as to the function of the muscle. When a muscle contracts it increases in thickness, consequently when the internal thyro-arytenoid contracts it makes that portion of the cord in which it lies more bulky. He looked upon the muscle as being of use in modifying the prominence and consistency of the chord, and he thought it was of no great use as a relaxer. According to Dr. Woods, the internal portion of the thyro-artytenoid would contract during the production of a high note while the external portion contracted in producing a low note, so that the two portions of the muscle would be acting in direct opposition to one another, which, at first sight, is contrary to all our ideas.

Dr. Woods, in reply, said that it is only when the chords have a very high tension that the crico-arytænoidei laterales have a double action. It was well known that when a singer tried to sing an unusually high note it was impossible to bring it out with softness, because when the singer is fairly high up the tendency is to press the arytenoids tighter together and to make it more difficult to open the glottis, and, therefore, a greater exertion is required. With regard to Professor Birmingham's point, he (Dr. Woods) thought that the object of the internal portion of the thyro-arytenoids contracting was not to approximate the points of origin and insertion but for the purpose of increasing its own tension. Simultaneously with this contraction they had the contraction of the crico-thyroid, which must help to keep away origin from insertion. Therefore they must come to the conclusion that the different fibres of the internal portion of the muscle must have opposing functions just as those of the gluteus medius have.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—C. J. Nixon, M.D.

Sectional Secretary—J. B. Story, F.R.C.S.I.

Friday, March 24, 1893.

The President in the Chair.

Case of Molluscum Dermatolyticum.

Dr. O'Carroll showed a girl, aged twenty, the subject of multiple molluscum fibrosum on the trunk with a dermatolytic patch of molluscum occupying the right side of head as high as about an inch above the ear, the right check in its lower portion, and the right side of the neck. The skin here is in folds, which hang down one over the other, and which have grown much, apparently as a consequence of their weight, during the last five years, though the original condition is congenital. The whole patch is of a brownish tint, shading more or less towards red, with variations in the quantity of blood in the part; thus, the more dependent folds are redder than the upper ones, and the upper border of the patch shows the pigment colour unmixed with that due to the blood supply.

Dr. M'Weeney suggested that one of the small tumours should be removed from the body and be subjected to microscopic examination, with a view to ascertain were there any parasitic protozoa present.

Dr. O'Carroll said he would be glad to have one examined.

Dur Hæmatoma, associated with Jacksonian Epilepsy.

By Drs. Eustace and Parsons.

Mr. X——, aged twenty-eight, unmarried, farmer. Admitted to Hampstead Asylum, September, 1888. No family history of insanity, except that mother's brother had syphilitic general paralysis. Family, however, neurotic. Had blow on head, but account vague. Suffered from *petit mal* for year before admission. Was engaged to be married, and a week before coming in began to design magnificent house, grounds, &c., for his intended. Tried to stab his sister with pruning-knife.

On admission, was happy, garrulous and boastful, but was well enough to ride and drive without attendant. This was soon discontinued owing to some attacks of *petit mal*. Two months after had convulsive seizure without premonitory systems, affecting *left* side most, and this side became bloodless, cold and paralysed in comatose stage, though temperature rose to 101°. These attacks were occasionally repeated during next two years, and symptoms of flushing, tremor and anxiety also set in. The eyes appeared normal when examined. The fits were thought by patient to be often prevented by taking antipyrin, or tying string round wrist.

The noticeable points about the fits were:—(1.) Premonitory stage 5–10 minutes. Sometimes no attack followed. Twitching began in *left* side. (2.) Convulsive stage 2–20 minutes, varying also in intensity. Deviation of eyes to *left*, (3.) Postparoxysmal stage ½–2 hours. Patient was weak-minded, but had no delusions at this time, but when sent home became dangerously violent.

About two years after admission had slight general attack, after which *right* side was paralysed for about half an hour. This was repeated with the addition of temporary aphasia next day, followed by rise of temperature and pulse-rate and lapse into very serious typhoid state, from which he rallied later.

Gradually he became more and more demented, and sometimes maniacal, wet and dirty in habits. There were paresis, slurring speech, spastic myosis, exaggerated reflexes, incontinence of urine and fæces. Trismus followed his epileptic seizures, and on several occasions he sank into the status epilepticus.

During last two months of life was completely paralysed, confined to bed, and suffered from bed-sores. Finally died of pneumonia on July 30th, 1892.

Post-mortem a pachymeningitis was found extending over left cerebral hemisphere and a large semi-fluid tumour over right, between dura and arachnoid. The brain was much flattened on right side, and softened, but pia was not adherent as in general paralysis, nor were there granules in 4th ventricle.

5 oz. of flaky fluid between brain and meninges.

Contents of skull weighed 49 oz.

Tumour alone 7 oz.

Dr. Parsons states that the skull-cap was detached without any unusual difficulty from the dura mater, and on examination presented no abnormal features; there was no indication whatever of traumatism. The external surface of the dura was apparently quite normal, but on reflecting the dura mater it was found to carry on its under surface a membrane almost entirely covering the convexity of the brain, but not extending into the longitudinal fissure or to the bone. On the left side the membrane varied in thickness from one-sixteenth to one-eighth of an inch, and was practically non-adherent to the dura. On the right side, over the frontal and occipital lobes, the membrane was exceedingly thin, and was readily detached from the dura, showing apparently the normal endothelial surface of the latter, but as the portion covering the parietal lobe was reached the membrane increased in thickness and strength, and required somewhat more force to detach it. Directly over the parietal lobe it presented the appearance of a reddish-coloured tumour, about three-quarters of an inch in maximal thickness, and thinning away towards the edges. It was soft in consistence, and contained a quantity of fluid blood. Its pressure had produced considerable flattening of the parietal convolutions. The pia-arachnoid stripped off readily from the brain without carrying any brain substance on its under surface. The theories put forward to explain this rare condition were enumerated, and it was thought that the appearance presented by this case supported Huguenin's rather than Virchow's view. The early age at which this condition proved fatal, and the absence of the *post-mortem* appearance usually present in cases of general paralysis of the insane, were mentioned as enhancing the rarity of the specimen.

Dr. Bennett thought it was very important that the prevalent opinion that these tumours were of frequent occurrence after traumatism should be contradicted. The erroneous statements present in text-books originated in Prescott Hewett's account of the disease in "Holmes' Surgery."

Case of Pachymeningitis depending on Ear Disease.

Dr. O'Carroll showed a specimen of pachymeningitis with the following history, based on the statements of the patient and of his parents:—A boy, ten years of age, well developed, had nine months ago for the first time epileptiform attacks. They were confined to the left side, were short in duration, and were not accompanied by stupor, although there was often some short unconsciousness. He came to hospital for facial erysipelas which had manifested itself three days before. He died by progressive asthenia, it seemed, four days later, being conscious up to a few minutes before death. While in hospital he had been seen to suffer contractions of the left side of his face. There was no history of injury to account for the erysipelas; there was no discharge from the ears; nor from the patient or his friends could any account of ear-trouble or of conditions likely to lead to ear-mischief be elicited.

Post-mortem—The dura mater over the parietal and adjacent portions of the right convexity of the brain was found to be much thickened, and bound down to the other meninges and the cortex by a dense structureless material in which patches recognisable as caseated pus still persisted. There was no sign of any fresh intracranial trouble which could be attributed to or associated with the erysipelas. The right middle ear was found full of pus, the left tympanum normal. The liver showed typical amyloid degeneration, the other organs similarly but in less degree. The pathological history of the case seems, therefore, to have proceeded in this order: purulent catarrh of right middle ear, extension of the process to the dura mater, with purulent effusion on its inner aspect, limitation of the original pachymeningitis, and subsequent caseation and absorption of pus with concomitant lardaceous degeneration of liver and other organs, erysipelas, asthenia, death. The main points of interest seem to be a pathological one and a clinical one. Pathologically it is of interest that a purulent effusion should be so limited, so absorbable, and should show so little tendency to further infectiveness. The main question clinically would seem to be the cause of the epileptiform attacks. Dr. O'Carroll was inclined to believe that they depended on cicatricial strains on the cortex rather than on any directly irritative effect of the pus or dural thickening.

The President read a paper on Coma in Typhoid Fever.

Dr. M'Weeney suggested that the pathology of this case might depend on the absorption of poisonous substances from the intestine, causing a disturbance of the heat-regulating centre. There was no doubt that the patient had typhoid fever, and this disturbance does take place in that disease.

The following papers were read:—

Dr. M'Weeney: Tubercular Tumours of Brain.

The President: A Case of Aortic Patency.

Dr. M'Cullagh: Fusion of Tibia and Fibula; Congenital Malformation.

The Section then adjourned.

SECTION OF MEDICINE.

President—**Walter G. Smith**, M.D.; President of the Royal College of Physicians of Ireland.

Sectional Secretary—**A. N. Montgomery**, M.R.C.P.I.

Friday, April 17, 1893.

Dr. J. M. Finny in the Chair.

Blood-poisoning following Extraction of a Molar Tooth.

Mr. Burgess read a paper on a Case of Blood-poisoning following the Extraction of a Molar Tooth. [It will be found at page 380.]

Dr. Arthur Baker said he could remember similar consequences following a difficult extraction, and also one in which no difficulty was met, though the cases are of extreme rarity. It is very difficult to give relief. An incision seldom gives vent to any amount of pus. The socket is generally filled with dark-coloured slough, and by clearing it out, syringing, and then insufflating some iodoform, and finally putting in a plug of wool relief is obtained.

Dr. Little said that some years ago he saw a young man who was feverish and ill some ten days after the extraction of an upper molar. Up to the removal of the tooth he was, in his own opinion and in that of his uncle, in perfect health. Gradually active lung mischief developed, and he shortly died with all the symptoms and physical signs of acute phthisis.

Sir William Stokes said he was reminded of the case of the late Dr. Thomas Beatty, who suffered from acute pain in his teeth, and persuaded a dentist against his better judgment to withdraw one of the teeth. Pyæmia rapidly set in, and he died in a few days. He probably suffered from some gouty osteitis.

Dr. J. Marshall Day said that he had met a case of an old woman, one of whose teeth was extracted, and who in three days returned to the hospital with tetanic symptoms. She had trismus, and recovery was tedious.

Mr. Burgess, in reply, said that his patient for about a month previous to the extraction of his tooth was in a low condition of health The symptoms became acute just after the extraction of the tooth.

A Case of Myxœdema.

Dr. Wallace Beatty gave an account of a case of myxœdema which had been under his care. [The Paper will be found at page 375.]

A Case of Myxœdema treated by Thyroid Juice.

Dr. Little read an account of a case of myxœdema treated at first by the hypodermic injection and subsequently by the internal administration of thyroid juice.

Dr. J. A. Scott, described the manner in which he prepared the extract for Dr. Little. He stated that the main point to be attended to was the absolute sterilisation of everything. He touched neither the blades of his instruments nor the thyroid bodies with his hands. In the sheep the thyroid bodies are usually very small and resemble an inch and a half cut off a lead pencil. On removal from the body of the sheep they were minced up on a board which was soaked in corrosive sublimate and then washed with phenol. They were then transferred to a sterilised glass capsule and brought from the abattoir and put into sterilised test-tubes and covered with equal parts of glycerine and a half per cent. solution of phenol. This extracted something in twenty-four hours, but not by any means all that might be obtained. A sterilised piece of linen was then placed in the cylinder of a syringe, the contents of the test-tube poured in, and the piston forced down. Whatever was squeezed out was collected in a bottle. It seemed to him very important to sterilise the skin of the patient also when injections of albuminous substances were made.

Dr. Hawtrey Benson related the case of a lady, aged fifty, suffering from myxœdema, who refused to undergo the hypodermic injection of thyroid extract, and whom he treated successfully with the administration of the extract by the mouth. He first prescribed ten minims twice a day in water between meals, and persevered with this for three weeks without apparent change. The dose was then raised to fifteen minims, and a marked improvement took place, and she got perfectly well. She now takes eight minims in water once a day. She had been suffering from the disease for eight years previously. He thought that this case showed that all cases of myxœdema should be treated by the administration of the drug by the mouth before hypodermic injection was resorted to.

Dr. Falkiner suggested trying the thyroid of a pig.

Dr. J. W. Moore stated that five-grain tabloids of the dried extract of the entire gland were now prepared by Burroughs, Wellcome & Co., and had been successfully used. They were pleasant to the taste and a very suitable form for administration.

Dr. Dawson asked would it be possible to prepare the extract without adopting antiseptic measures in its preparation and afterwards sterilise the extract.

Dr. Atthill thought the thigh was the proper place to inject the fluid into subcutaneously.

Sir William Stokes recorded a case in which myxœdema developed in four weeks after the complete removal of the thyroid ending fatally; and he asked would injection be a suitable treatment to employ in these surgical cases.

Dr. Wallace Beatty said that in his first case the extract was prepared and the first injection made by Dr. Purser. He and Dr. Purser had followed the directions given by Dr. Murray of Newcastle-on-Tyne in the preparation of it. He thought that administration of the extract would be a very suitable means of treatment in cases such as Sir William Stokes mentioned.

Dr. Little briefly replied.

Dr. Scott replied to Dr. Dawson, stating that he had made experiments with that view, but had found that the extract became solid, and could not be got into or out of a hypodermic syringe.

The Section then adjourned.

THE KEELEY GOLD CURE.

C. F. **Chapman**, M.D. (*Chicago Medical Recorder*, February, 1893), who, for the sake of information, acted for some time as physician to a Gold Cure Sanitarium, describes the composition of the fluids (of which strychnin is the active agent) used, and the methods adopted. The formula for the "tonic" is nearly as complicated as that of chlorodyne. Chloride of gold and sodium, strychnia, and atropia, are all present. The "injection" contains strychnia, with permanganate of potash "to colour," a little gold solution being added in the sight of the patient for the sake of the moral effect produced. The disgust to drink is thus managed:—A drink of whisky is given, and the "gold" is at the same time injected, but without telling the patient $\frac{1}{10}$ gr. apomorphin is added to the injection. "More or less violent emesis is produced, and the patient soon associating the intaking of the whisky with the subsequent disagreeable vomiting, acquires a positive disgust for the liquor, and is not able to keep any on his stomach."

CACTUS GRANDIFLORA.

Cactus Grandiflora is recommended in all heart cases of diminished ventricular force; in cases of tobacco, tea, alcoholic, or morphin poisoning; and, lastly, in such heart cases as contra-indicate the use of digitalis. It stimulates the intra-cardiac ganglia and the accelerator nerves. Under its influence arterial tension is markedly increased, and the duration of the diastole diminished.—*Les Nouveaux Remèdes*, No. 12.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;
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Vital Statistics

For four Weeks ending Saturday, March 25, 1893.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	March 4.	March 11.	March 18.	March 25.		March 4.	March 11.	March 18.	March 25.
Armagh -	21·0	21·0	14·0	14·0	Limerick -	25·3	18·2	19·6	28·1
Belfast -	27·5	25·2	22·6	24·0	Lisburn -	12·8	8·5	8·5	12·8
Cork -	25·6	31·1	27·0	30·5	Londonderry	20·4	23·6	18·8	18·8
Drogheda	26·4	22·0	22·0	22·0	Lurgan -	22·8	22·8	27·4	27·4
Dublin -	27·0	23·7	24·9	24·5	Newry -	20·1	24·1	20·1	24·1
Dundalk -	0·0	33·5	4·2	37·7	Sligo -	15·2	25·4	10·2	20·3
Galway -	26·4	18·9	7·6	41·5	Waterford -	32·5	32·5	12·5	35·0
Kilkenny	18·9	37·8	28·3	23·6	Wexford -	18·1	36·1	22·6	22·6

In the week ending Saturday, March 4, 1893, the mortality in thirty-three large English towns, including London (in which the rate was 20·8), was equal to an average annual death-rate of 20·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·2 per 1,000. In Glasgow the rate was 26·7, and in Edinburgh it was 14·2.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 25·7 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in eleven of the districts to 7·5 in Waterford—the 13 deaths from all causes registered in that district comprising 1 from typhus and 2 from whooping-cough. Among the 140 deaths from all causes registered in Belfast are 2 from measles, 1 from scarlatina, 1 from typhus, 5 from whooping-cough, 2 from enteric fever, and 3 from diarrhœa. The 13 deaths in Londonderry comprise 1 from measles and 1 from whooping-cough. The Registrar of Lisburn District remarks—"Two new cases of small-pox during week".

In the Dublin Registration District the registered births amounted to 234—124 boys and 110 girls; and the registered deaths to 186—88 males and 98 females.

The deaths, which are 18 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·7 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 27·0 per 1,000. During the first nine weeks of the current year the death-rate averaged 28·9, and was 4·2 under the mean rate in the corresponding period of the ten years, 1883–1892.

The number of deaths from zymotic diseases registered was 20, being 12 over the low number for the week ended February 25, but 2 under the average for the 9th week of the last ten years. They comprise 1 from typhus, 5 from whooping-cough, 1 from ill-defined fever, 4 from enteric fever, 2 from diarrhœa, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital during the week was 13, being 3 over the admissions for the preceding week. Twenty-three enteric fever patients were discharged, 1 patient died and 82 cases remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 9 cases of scarlatina (being a decline of 4 as compared with the admissions for the preceding week), and 3 of typhus: 64 cases of the former and 6 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 36, being 10 below the number for the preceding week, and 13 under the average for the ninth week of the last ten years. The 36 deaths comprise 22 from bronchitis, 5 from pneumonia or inflammation of the lungs, and 2 from pleurisy.

In the week ending Saturday, March 11, the mortality in thirty-three large English towns, including London (in which the rate was 19·1), was equal to an average annual death-rate of 19·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·3 per 1,000. In Glasgow the rate was 25·5, and in Edinburgh it was 13·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in ten of the districts to 4·4 in Drogheda—the 5 deaths from all causes registered in that district comprising 1 from simple continued fever. Among the 128 deaths from all causes registered in Belfast are 3 from measles, 1 from typhus, 3 from whooping-cough, 4 from diphtheria, 1 from enteric fever, and 3 from diarrhœa. The 45 deaths in Cork comprise 2 from enteric fever.

In the Dublin Registration District the registered births amounted to 189—102 boys and 87 girls; and the registered deaths to 169—89 males and 80 females.

The deaths, which are 53 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·2 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 23·7 per 1,000. During the first ten weeks of the current year the death-rate averaged 28·5, and was 4·6 under the mean rate in the corresponding period of the ten years, 1883–1892.

Only 15 deaths from zymotic diseases were registered, being 5 under the number for the week ended March 4, and 9 below the average for the 10th week of the last ten years. They comprise 1 from measles, 1 from scarlet fever (scarlatina), 1 from influenza, 1 from whooping-cough, 1 from diphtheria, and 6 from enteric fever.

The number of cases of enteric fever admitted to hospital was 10, being 3 under the admissions for the preceding week. Sixteen enteric fever patients were discharged, 1 patient died, and 75 cases remained under treatment on Saturday, being 7 below the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 12 cases of scarlatina (being an increase of 3 as compared with the admissions for the preceding week). No case of typhus was received. Sixty-nine cases of scarlatina and 5 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 46 for the week ended February 25 to 36 for the following week, further declined to 25, or 29 under the average for the corresponding week of the last ten years. The 25 deaths comprise 15 from bronchitis, 7 from pneumonia or inflammation of the lungs, and 1 from pleurisy.

In the week ending Saturday, March 18, the mortality in thirty-three large English towns, including London (in which the rate was 19·1), was equal to an average annual death-rate of 19·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·2 per 1,000. In Glasgow the rate was 23·5, and in Edinburgh it was 16·7.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 22·6 per 1,000 of the population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in twelve of the districts to 5·0 in Waterford—the 5 deaths from all causes registered in that district comprising 1 from whooping-cough and diarrhœa. Among the 115 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 3 from whooping-cough, 3 from diphtheria, 1 from simple-continued fever, and 4 from diarrhœa.

In the Dublin Registration District the registered births amounted to 174—92 boys and 82 girls; and the registered deaths to 174—85 males and 89 females.

The deaths, which are 40 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·0 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 24·9 per 1,000. During the first eleven weeks of the current year the death-rate averaged 28·3, and was 4·7 under the mean rate in the corresponding period of the ten years 1883-1892.

The number of deaths from zymotic diseases registered is 21, being 6 over the number for the week ended March 11, but 1 under the average for the 11th week of the last ten years. The 21 deaths comprise 2 from measles, 1 from scarlet fever (scarlatina), 1 from influenza, 4 from whooping-cough, 1 from diphtheria, 3 from enteric fever, 1 from dysentery and 3 from erysipelas.

Ten cases of enteric fever were admitted to hospital, a number which was equal to the admissions for the preceding week. Thirteen enteric fever patients were discharged and 72 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

The hospital admissions include, also, 6 cases of scarlatina (being a decrease of 6 as compared with the admissions for the preceding week), and 2 of typhus: 69 cases of the former and 4 of the latter disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 36 for the week ended March 4 to 25 for the following week, rose to 28, but this number is 23 below the average for the corresponding week of the last ten years. The 28 deaths comprise 13 from bronchitis, 12 from pneumonia or inflammation of the lungs, 1 from croup, and 1 from pleurisy.

In the week ending Saturday, March 25, the mortality in thirty-three large English towns, including London (in which the rate was 20·7), was equal to an average annual death-rate of 20·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·4 per 1,000. In Glasgow the rate was 27·3, and in Edinburgh it was 20·6.

The average annual death-rate in the sixteen principal town districts of Ireland was 25·1 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in seven of the districts to 10·0 in Waterford—the 14 deaths from all causes registered in that district comprising 2 from whooping-cough, 1 from diphtheria, and 1 from diarrhœa. Among the 122 deaths from all causes registered in Belfast are 2 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 2 from diarrhœa. The 12 deaths in Londonderry comprise 3 from measles and 1 from diarrhœa. The 9 deaths in Dundalk comprise 1 from measles and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 262—117 boys and 145 girls; and the registered deaths to 179—93 males and 86 females.

The deaths, which are 44 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·7 in every 1,000 of the population. Omitting the deaths (numbering 15) of persons admitted into public institutions from localities outside the district, the rate was 24·5 per 1,000. During the first twelve weeks of the current year the death-rate averaged 28·2, and was 4·8 under the mean rate in the corresponding period of the ten years, 1883–1892.

The number of deaths from zymotic diseases registered is 17, being 4 under the number for the week ended March 18, and 6 below the average for the 12th week of the last ten years. The 17 deaths comprise 1 from measles, 2 from typhus, 1 from influenza, 3 from whooping-cough, 1 from simple-continued fever, and 5 from enteric fever.

Thirteen cases of enteric fever were admitted to hospital, being 3 over the admissions for the preceding week. Twelve enteric fever patients were discharged, 1 patient died, and 72 cases remained under treatment on Saturday, being equal to the number of patients in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 13 cases of scarlatina (being a increase of 7 as compared with the admissions for the preceding week), and 1 case of typhus: 73 cases of the former and 4 of the latter disease remained under treatment in hospital on Saturday.

Thirty-two deaths from diseases of the respiratory system registered, being 4 in excess of the number for the preceding week, but 21 under the average for the 12th week of the last ten years. The 32 deaths comprise 16 from bronchitis and 15 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of March,* 1893.

Mean Height of Barometer, - - -	30·085 inches.
Maximal Height of Barometer (on 19th, at 9 a.m.), -	30·411 ,,
Minimal Height of Barometer (on 1st, at 9 a.m.), -	29·267 ,,
Mean Dry-bulb Temperature, - - -	46·5°.
Mean Wet-bulb Temperature, - - -	43·6°.
Mean Dew-point Temperature, - - -	40·2°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	·251 inch.
Mean Humidity, - - - - -	79·7 per cent.
Highest Temperature in Shade (on 29th), - -	64·8°.
Lowest Temperature in Shade (on 17th), - -	34·0°.
Lowest Temperature on Grass (Radiation) (on 17th and 21st), - - - - -	29·0°.
Mean Amount of Cloud, - - - -	49·1 per cent.
Rainfall (on 8 days), - - - -	·288 inch.
Greatest Daily Rainfall (on 2nd), - - -	·101 inch.
General Directions of Wind, - -	W., E.N.E., E.S.E.

Remarks.

A singularly dry, warm, sunny month—more like May than March. It broke the record as regards height of temperature, deficiency of rainfall, and clearness of the sky and bright sunshine. The arithmetical mean temperature was 5·0° above the average for the month and no less than 9·0° above that of March, 1892 (39·1°). It was even 0·8 above the mean temperature of March, 1868 (47·3°), which had proved the warmest March since these records began in 1865 up to the present year. The deficiency in the rainfall was equally striking, the only comparable year for drought in March being 1871, when, however, ·815 inch of rain fell on 12 days against ·288 inch on 8 days in 1893. Not one-half of the sky was on the average covered with clouds, and the air was often very dry; consequently, the diurnal range of temperature was large—hot sunshine by day being followed by sharp nights. This was markedly the case in central England, where on more than one occasion during the latter half of the month the thermometer in the shade traversed more than 40° within a few hours.

In Dublin the arithmetical mean temperature (48·1°) was considerably above the average (43·1°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 46·5°. In the twenty-eight years ending with 1892, March was coldest in 1867 and 1883 (M. T. = 39·0°), and warmest in 1868 (M. T. = 47·3°). In 1876 the M. T. was 41·1°, in 1879 (the "cold year") it was 42·5°, in 1888 it was as low as 39·8°; in 1889 it was 44·0°, and in 1890 it was as high as 45·1°. In 1891, it was only 41·7°; and in 1892 it was as low as 39·1°. As a general rule, February in Dublin is only a shade colder than March. This is due to the fact that the Continental anticyclone usually embraces the British Isles and Scandinavia in March, causing easterly winds. In 1892 February was actually 2·2° warmer than March, but in the present year March was 5·4° warmer than February.

The mean height of the barometer was 30·085 inches, or 0·169 inch above the corrected average value for March—namely, 29·916 inches. The mercury rose to 30·411 inches at 9 a.m. of the 19th, having fallen to 29·267 inches at 9 a.m. of the 1st. The observed range of atmospherical pressure was, therefore, 1·144 inches—that is, more than an inch and one-tenth.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 46·5°, or 4·8° above the value for February, 1893. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·485), the M. T. becomes 47·9°. The arithmetical mean of the maximal and minimal readings was 48·1°, compared with a twenty-five years' average of 43·1°. On the 29th the thermometer in the screen rose to 64·8°—wind, W.S.W.; on the 17th the temperature fell to 34·0°—wind, W.N.W. The minimum on the grass was 29·0°, on the 17th and also on the 21st.

The rainfall was only ·288 inch, distributed over 8 days. The average rainfall for March in the twenty-five years, 1865–89, inclusive, was 2·061 inches, and the average number of rainy days was 16·5. The rainfall, therefore, was much below the average, while the rainy days were also much below it. In 1867 the rainfall in March was very large—4·972 inches on 22 days; in 1888, 3·753 inches fell on 18 days; in 1866 also 3·629 inches fell on 21 days. On the other hand, in 1871, only ·815 of an inch was measured on 12 days, and in 1874 only ·953 of an inch fell on 12 days. In 1887 (the "dry year"), 1·485 inches of rain fell on 15 days; in 1889, 1·076 inches fell on, however, as many as 17 days; in 1890 the fall was as much as 3·693 inches on 17 days; but in 1891 only ·936 of an inch fell on 16 days, and in 1892 only ·991 of an inch on but 9 days.

The atmosphere was thick with dry smoke fog in the city on 8 days, viz., the 2nd, 3rd, 13th, 19th, 20th, 24th, 25th, and 27th. High winds were noted on 11 days, reaching the force of a gale, however, on only one occasion, the 1st. Snow or sleet occurred on the 16th and 17th; and hail fell on the 1st and 16th. The temperature exceeded 50° in the screen on as many as 26 days compared with only 7 days in 1892, 9 days in 1891, and 19 days in 1890; while it never fell to 32° in the screen, whereas in March, 1892, frost occurred in the shade on as many as 16 nights. The minima on the grass were 32°, or less, on 12 nights, compared with 25 nights in 1892, 20 nights in 1891, and 16 nights in 1890. On 4 days the thermometer rose above 60° in the screen, while it never failed to reach 40°. In March, 1892, the thermometer did not rise to 40° in the screen on 9 days.

The first four days of the month were warm and changeable, with frequent rain or showers and variable, chiefly westerly, winds. As compared with the closing days of February a marked increase of atmospherical pressure occurred after Wednesday, the 1st. On that day a depression passed by the North of Ireland across Scotland towards Denmark. Temperature rose fast, and a considerable rainfall was reported from most British stations. A ridge of high pressure followed this disturbance, but on Friday, the 3rd, a shallower depression in the N., with a "secondary" in the S., again threw the weather into a cloudy, showery condition. Saturday, the 4th, however, proved fine, and for the most part bright in Ireland. On the 3rd the thermometer rose to 56·7° in the screen in Dublin.

Singularly favourable and mild weather for the time of year held over the British Islands throughout the week ended Saturday the 11th. The ainfall also was but slight except at some exposed stations in the N.W. of Ireland and N. of Scotland. In Scandinavia, however, conditions were far otherwise—severe cold and excessive gales and snow-storms being experienced. This state of things was brought about by the persistence of an anticyclone, in which at one time (Friday morning) the barometer touched 30·50 inches, off the S.W. and S. of Ireland; while a series of atmospherical depressions of ever increasing intensity swept eastwards across Northern Europe. Of these disturbances the most serious was observed on Friday, at 8 a.m. of which day the barometer was down to 28·72 inches at Hernösand in Sweden as compared with the reading 30·50 inches recorded at the same time at Valentia Island, in Kerry. Fresh to strong westerly to north-westerly winds prevailed generally in the United Kingdom. At first the sky was very cloudy, but towards the close of the week the clouds dispersed and the air became very dry, so that the diurnal range of temperature was large—at Cambridge, on Wednesday, the maximum was 66°, the minimum was 37°. In Dublin the mean height of the barometer was 30·287 inches, pressure ranging between 30·403 inches at 9 a.m. of Wednesday (wind W.) and 29·996 inches at 9 p.m. of Saturday (wind S.W.). The corrected mean temperature was 48·4°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 46·9°. On Sunday and again on Tuesday the thermometer rose to 55·8° in the screen; on Friday it fell to 37·0° in the screen, and 31·4° on the grass. The rainfall was ·034 inch on one day —Monday. The prevalent winds were westerly and north-westerly.

The most striking feature in the meteorology of the week ended Saturday, the 18th, was the continued depression of the barometer over the Norwegian Sea and the North of Europe generally. At first temperature was high for the time of year in all parts of the British Islands; but in England the diurnal range was extremely large—amounting to 30° or upwards between Sunday afternoon and Monday morning—at Loughborough the extreme thermometer readings at 8 a.m. of Monday were: Max. 66°, Min. 33°, range 33°. As the disturbances in the far North drew after them subsidiary depressions across the United Kingdom, temperature gave way and the weather fell into an unsettled, showery, squally condition. On both Thursday and Friday hail, sleet, and snow occurred in many parts, and electrical phenomena were observed along a track extending from the N. of Ireland across the S. of Scotland to the mouth of the Elbe. On Tuesday night bright aurora borealis had been seen in Scotland and the S. of Ireland. At 8 a.m. of Thursday the barometer stood as low as 28·54 inches at Christiansund on the W. coast of Norway, while it read 30·06 inches at Nice. Needless to say that strong S.W. to N.W. winds and gales swept over Western Europe. In Dublin the mean height of the barometer was 29·842 inches, pressure being observed to range from 29·575 inches at 7 15 a.m. of Thursday (wind, W.N.W.) to 30·386 inches at 9 p.m. of Saturday (wind, E.S.E.). The corrected mean temperature was 44·6°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 43·5°. On Sunday the screened thermometers rose to 55·9°, on Friday they fell to 34·0°. The rainfall measured ·118 inch on four days. The heaviest rainfall in 24 hours was ·058 inch on Saturday. Snow or sleet fell on Thursday and Friday; hail on Thursday. There was a slight fog on Monday night.

Many years have passed since a spell of more beautiful weather than that enjoyed during the week ended Saturday, the 25th, has been recorded in March. After Sunday, which was a cloudy day, very little cloud appeared by day or night, and warm sunny days were followed by calm, sharp nights. Throughout the week, conditions were anticyclonic in Western Europe. The centre of highest atmospherical pressure was generally found over the south of England, France, Belgium, and Holland, and in these regions, under the combined influence of a clear sky and dry air, the diurnal range of temperature was almost phenomenal. For example, at Loughborough, in Leicestershire, on Monday night the screened thermometer sank to 23°, while it rose to 65° in the course of Tuesday—a range of 42° in a few hours. A similar excessive range was observed on Saturday at the same station. In Ireland the extremes of temperature were of the same character, though much less marked. At the very beginning of the week severe frost occurred in Great Britain, the minima in the screen on Sunday being 26° at Leith, Shields, and Dungeness; 25° at York, and in London; 24° at Nairn; 23° at Oxford, and Cambridge; and 20° at Loughborough. The morning of this day in Ireland broke dull and damp, but the weather improved as the day wore on. In Dublin light easterly sea breezes by day alternated with calms by night. The mean height of the barometer was 30·313 inches, pressure ranging from 30·411 inches at 9 a.m. of Sunday (wind, E.S.E.) to 30·193 inches at 9 a.m. of Thursday (wind, calm), and again rising to 30·409 inches at 9 a.m. of Saturday (wind, E.). The corrected mean temperature was 48·2°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 46·2°. On Thursday, the screened thermometers rose to 61·9°; on Tuesday, they fell to 38·3°. There was no measurable rainfall after 9 a.m. of Sunday. Bright sunshine was unusually prevalent and greatly exceeded the mean during this week. At the Ordnance Survey Office, Phœnix Park, the sun shone brightly for 64·2 hours, being 76 per cent. of the possible duration of sunshine. In Guernsey the percentage was 90, in Jersey it was 91. These values in the Channel Islands are higher than any hitherto obtained during any period since the sunshine recorders were established in 1881. In nearly all British and Irish districts the percentages of bright sunshine recorded this week are far higher than any previously observed in the month of March.

The weather was by no means so settled during the closing period (26th–31st inclusive) as it had been during the preceding week. Clouds increased at times, and both atmospherical pressure and temperature became unsteady. Rainfall, however, was again markedly deficient in all parts of the United Kingdom, although in parts of Spain, Portugal, and the extreme south of France there were some heavy downpours—for example, ·67 inch fell at Lisbon on Tuesday, the 28th, and 1·50 inches at Perpignan on Wednesday, the 29th. Until this last-named day an anticyclone stretched northwestwards across the North Sea, while pressure was low and conditions were cyclonic over the Iberian Peninsula. Light to moderate easterly winds prevailed in the British Islands. The first two days of the period were cool and at times cloudy in Dublin. Tuesday proved brilliant, and on Wednesday (with the displacement of the easterly wind by a S.W. and W. current) the thermometer rose in this city to 64·8°. Thursday was cooler. On Good Friday, the 31st, a depression came in from the Atlantic causing squally S.W. winds and a slight rainfall in the evening. The diurnal range of temperature was again excessive at some inland English Stations—thus, on Tuesday, the thermometer fell from 67° to 26° at Cambridge and from 64° to 24° at Loughborough. In Dublin the barometer ranged from 30·299 inches at 9 a.m of Sunday (wind, N.E.) to 29·624 inches at 2 p.m. of Friday (wind, S.W.). On Monday the screened thermometers fell to 37·0°, on Wednesday they rose to 64·8°. Rain fell on Friday to the amount of ·022 inch only.

The rainfall in Dublin during the three months ending March 31st has amounted to 5·196 inches on 49 days, compared with 4·808 inches on 48 days in 1892, only 1·650 inches on but 32 days in 1891, 7·470 inches on 45 days in 1890, 5·738 inches on 53 days in 1889, 6·097 inches on 41 days in 1888, and a twenty-five years' average of 6·411 inches on 51·0 days (1865–1889, inclusive).

At Knockdolian, Greystones, Co. Wicklow, only ·205 inches of rain fell on 6 days during March; and the total rainfall since January 1, 1893, equals 7·475 inches on 49 days. The corresponding figures for 1892 are ·995 inch on 9 days, the total rainfall since January 1 being 4·205 inches on 40 days.

The rainfall in March at Cloneevin, Killiney, Co. Dublin, was ·26 inch on 9 days, as against ·98 inch on 10 days in 1892, and an eight-years' average of 1·90 inches on 14·5 days. The maximum in the 8 years was 3·59 inches in 1888, the minimum was ·74 inch in 1891.

PHTHISIS AND LIFE INSURANCE.

In opening the subject of Phthisis and Life Insurance, Dr. Lyon, Medical Officer to the Mutual Life Office, tells us that the mortality is lowest between 4 and 5 years, highest from 34 to 45, and that more mothers die than fathers, since women marry younger than men. It appears from his statistics that the father is the worst relation to die as far as the future health of the family goes, but his figures are too small to found such an important statement upon. It is a subject worthy of investigation by Insurance Companies.

ACUTE PNEUMONIA TREATED WITH HYPODERMICS OF TURPENTINE.

M. Gingrot (*Soc. de Médecine des Hôp.*) reports a case of acute pneumonia in a patient twenty-nine years old, successfully treated by genuine hypodermics of turpentine. The turpentine was not commenced until the eighteenth day of the illness, when the patient was apparently dying. Delirium, temp., 104.—*Bulletin Médical.*

PENTOL AS AN ANÆSTHETIC.

A. Hagler has used pentol in 40 cases of teeth extraction. The quantity required to produce anæsthesia is from 5 centimetres for a child to 10 centimetres for an adult. Anæsthesia is produced in from 30 seconds to two minutes. Narcosis is usually produced without excitement, but in some cases there was marked excitement. The duration of the sleep varied from three to seven minutes. During the sleep the eyes became prominent, the pupils enlarged, the conjunctival reflex persisted, but the muscular relaxation of the arms was marked. Consciousness is preserved throughout. The analgesia is complete. Pentol has the advantage over bromide of ethyl of not producing salivation.—*Les Nouveaux Remèdes*, No. 9.

In Memoriam.

RAWDON MACNAMARA, M.D. (Hon. Causâ), Univ. Dubl.;

F.R.C.S.I.; M.R.I.A.

WITH much regret we record the death of our friend and colleague, **RAWDON MACNAMARA.** The sad event took place at his residence, 95 St. Stephen's-green, Dublin, on the afternoon of Wednesday, April 12, 1893. Although for a long time back his many friends had observed with concern that Mr. MACNAMARA was in failing health, the immediate cause of his death was an attack of acute pneumonia.

We extract from the *Irish Times* of Thursday, April 13, the following appreciating obituary notice of one whose genial presence, charming good nature, and easy, polished manners will long be remembered by his many friends:—

"It is with very sincere regret, indeed, that we have to record the death of this most distinguished member of the Dublin medical profession, who succumbed yesterday at his residence, 95 Stephen's-green, to an attack of pneumonia of a few days' standing. By his death the Irish school of surgery has been deprived of one of its brightest ornaments. Mr. MACNAMARA was the second son of Dr. Rawdon Macnamara *primus*, and was born at 28 York-street, Dublin, on the 23rd February, 1822. He was, therefore, in his seventy-first year. Early in boyhood he selected to follow his father's profession, and was indentured on the 15th March, 1838, as an apprentice of Sir Philip Crampton, Bart., and his professional studies were carried out in the College of Surgeons School. He spent five years of his pupilage at the Meath Hospital, during one year of which he discharged the duties of Surgical Resident Pupil. On the 6th March, 1846, he obtained the license of the College, and passed for the Fellowship on the 8th December, 1852. He became a Licentiate of the College of Physicians in 1859, and in 1870 the University of Dublin conferred upon him the honorary degree of M.D., in recognition of his services in the cause of medical education and scientific research in

Ireland. The Medical Society of the University of Christiania conferred upon him their Fellowship *honoris causâ*. Mr. Macnamara, shortly after becoming qualified, was appointed Lecturer on Materia Medica in the Dublin School of Medicine, and subsequently lectured on that subject in the Carmichael and Ledwich Schools of Medicine. On the 3rd of August, 1860, he was elected Professor of Materia Medica in the School of the Royal College of Surgeons, Ireland; on August 7th, 1861, he was unanimously appointed Surgeon to the Meath Hospital, *vice* Francis Rynd, deceased. When he became President of the College of Surgeons in 1869, he filled the three offices—President, Professor of Materia Medica, and Surgeon to the Meath Hospital—which his father had occupied. During his presidential year he was the first President who entertained his Excellency Earl Spencer at a magnificent banquet, setting an example which has been followed on subsequent occasions by some of his successors in the presidential chair. At the time of his death he represented the College of Surgeons on the General Medical Council, and his genial and kindly face will be much missed at this board. Shortly after being qualified he acted as medical officer of Peter-street Dispensary, with his life-long friend and best-loved colleague, Sir George Porter, Bart. He was also Examiner in the Royal University, and for several years in the University of Dublin. He was the editor, and re-wrote the last edition of Neligan's 'Medicines and their Uses,' and contributed several very practical papers on surgery. He was Senior Councillor and Senior Professor of the College. Mr. Macnamara was beloved by his hospital colleagues and the students, who nearly always called him 'Sir Rawdon.' His lectures were very popular, being largely attended by the students. Even when the subject was dry he always told some very amusing stories, so as to entertain and instruct his class at the same time. He was a most genial and enlightened companion. He was a very good classical scholar, and spoke French and Italian fluently; and after the manner of the late Dr. Thomas Beatty, he made a good speech, told a story well, and made many a Dublin dinner party extremely pleasant. He leaves a wife, two sons, and three daughters all married, to deplore their great loss."

PERISCOPE.

PALMISTRY.

In May of this year appeared the first number of *The Palmist and Chirological Review*, the journal of the Chirological Society. There is a sister society in Dublin, so unobtrusive that we were not previously aware of its existence. The society is not, be it remembered, a fortuitous concourse of amateurs. "None but Fellows of the Society who have passed their second examination, and taken their degrees, are allowed to practice publicly, so that no empty-headed smatterers are turned out to delude a credulous public by prophesying all sorts of unutterable horrors, as all smatterers love to do, to the alarm of their unhappy victims, simply because they are unable, through ignorance, to interpret the character, or read the past life of their subjects with any possible accuracy." Unfortunately chirologists differ as well as doctors, and a notable illustration is given in this first number. In 1889, M. Bué, "a celebrated French Palmist and Astrologer," examined Boulanger's hand (of which a drawing is given), and predicted great success for him, attributing to him "Volonté ferme, résolue, atlant au but avec une persévérance sans égale, que rien detourne du but." A glance at the thumb of the *brave général* will show the absurdity of this attribution. Regardless of the maxim, "Don't never prophesy unless ye know," M. Bué predicted Boulanger's future. "In 1892 the general will begin a new era and rise to an eminent post, surrounded by honour and dignity, and so on up to1899." In the final prophetic picture he is at the head of France, imposing peace upon the world. The Society was founded in 1889, and meets fortnightly.

HARVARD MEDICAL SCHOOL.

We have received the second Bulletin of the Harvard Medical School Association, containing constitution, list of members, &c. The strength of the Association lies, naturally, in Massachusetts, Boston supplying 348 members, and other cities and towns of the State, 357. Of a total 998, 19 members hail from the Dominion, and Chili, Mexico, and Newfoundland contribute a member each.

PRURITUS ANI.

℞.—Hyd. Bichlor, s. gr. ·03; Chlor. Ammon. s. gr. 12; Acidi Carbol. 4 grammes; Glycerini, 60 grammes; Aquæ Rosæ, 115 grammes. Make a solution. To be applied night and morning.—*Ther. Monatsch.*, April, 1892.

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DIGESTIVE ENZYMES.

ZYMINE PEPTONISING POWDERS (Fairchild)

Are pure, palatable, and perfectly utilised by the human economy.

As is well known, plain cow's milk always curdles in the stomach, while mother's milk forms flakes. It is the dense heavy curds in the former which cause so much trouble to the infant, and they cannot be got rid of by diluting the milk. Fairchild's Peptonising Powders overcome the difficulty completely, for one of them will so change a pint of cow's milk in twenty minutes that this will present all the characteristics of mother's milk, forming flakes instead of curds in the stomach, and agreeing when everything else is rejected. Milk so treated is sweet and palatable, and suitable for all the purposes that plain milk is generally used. The *British Medical Journal* says—"Its introduction has probably done more than any other therapeutic measure of recent times to lessen infant mortality."

Zymine Peptonising Powders are supplied to the Medical Profession in boxes containing one dozen at 1/2 per box.

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As foods of varying digestibility are chosen according to the digestive power in health, and the food is cooked to render it less indigestible, so we have Zymine to further lessen the digestive requirements in case of debility and disease. The assertion that predigestion may weaken the digestive functions might with equal force be urged against cooking the food, for cooking and predigestion are both a process of hybration, and nothing more or less. On the other hand, it is by no means claimed that the usefulness of Zymine is universal; for it is chiefly observed in dyspeptic and infant feeding.

There is an impression that the preparing of peptonised food is a complicated process. This is a great mistake, so far as the Fairchild digestive ferments are concerned. For example, by adding half a drachm of Zymine to beef-tea made in the ordinary way, the indigestible nitrogenous matter will be dissolved out, and thus a nutritious infusion obtained. Surely there is no complicated process here. Again, five grains of Zymine, with fifteen grains of soda bicarb., will sufficiently peptonise a pint of milk (diluted one-fourth), kept warm in about twenty minutes. What could be simpler than this!

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A Glycerin Extract of the Peptic Ferments, possessing all the characteristics of a concentrated and very active solution of Pepsin. Of a uniform and unalterable character, it contains neither alcohol nor any antiseptic other than Glycerine of the purest character, forms a clear mixture with all media with which Pepsin is usually allied, and with which it may be used without chemical disturbance. Twelve minims will be found to possess the digestive power of one grain of the best Pepsin to be found in the market. Pharmacists will find this solution a real convenience, as it enables them to make up Fluid Pepsin preparations quickly and economically, without loss of time or substance by filtration. Supplied to the Medical Profession in 4 oz. and 1 lb. bottles at 1/10 and 6/- each.

Samples sent to Medical Men free on request.

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THE DUBLIN JOURNAL
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JUNE 1, 1893.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XIX.—*Simple Fevers and Eruptions liable to be mistaken for Infectious ones.*[a] By JOHN STRAHAN, M.D., M.Ch.

THE Notification of Infectious Diseases Act has brought out a fact previously well known to all who took much interest in medical matters—viz., the frequency of errors of diagnosis in infectious diseases. This holds all over Great Britain; but we in the North of Ireland are in, perhaps, a worse case than many others, because our students have not sufficient opportunities for actual observation of these cases.

A contributory defect in medical education here is that students and young practitioners are woefully badly up in skin diseases. Now, the diagnosis of eruptive fevers is intimately concerned with a knowledge of the various forms of skin eruption, and, unfortunately, the diagnosis of skin eruptions, infectious or simple, can be learned only by actual observation. No amount of reading or inspection of plates will ever enable a man to be comfortably sure about a case of scarlatina or measles. One hour at the Skin Hospital, or one run round the wards of the Union Fever Hospital, would do more than the closest study of the best book. This is a great pity, because, like superficial eye diseases, the diagnosis of most skin rashes, infectious or simple, merely involves a glance. They are, in the vast majority of cases, the easiest diseases in the world both to diagnosticate and to treat, as every change is self-evident to a single glance. It is a pity, also, because the public are particularly intolerant of ignorance here, and the man who cannot at once name an evident rash loses the confidence of his patients to a great extent.

---

[a] Read before the Ulster Medical Society, February, 1893.

I have said that with a very little experience the task is of the easiest. I mean that the referring the rash to its proper class, and even naming the disease, is very easy. Still, there are a number of most puzzling cases, both infectious and simple, where even the most experienced finds himself almost at a stand, and has to defer his diagnosis in order to await developments and to think over the matter, and exclude the possible causes one by one, till at last the mind, often before the next visit, settles on the only explanation of the facts which will meet all the circumstances. In proof of the opinion I hold that far more mistakes are made than there is any call for. I may refer to a letter in the *Brit. Med. Jour.* of Oct. 22, 1892, p. 921, where Dr. E. C. Greenwood says that during a fortnight 35 cases were received with a medical certificate of scarlatina. Out of these 6 had nothing at all the matter, the only reason for suspecting illness being that they had relatives ill of scarlatina; 1 had mumps, 1 typhoid, 1 sore throat, 1 suffered from an erythema of the buttocks from neglect and wet, making 10 out of 35 incorrectly diagnosticated. Whether the 2s. 6d. per head for notification made the practitioners of North London excessively careless I do not know, but I fancy a man would hardly damage his reputation so much for such a sum.

This paper is intended to be an attempt to explain why such mistakes should be so common, and by trying to enter a little into the causes of them, and by drawing attention to the matter, to help to remedy the evil. That it is a crying evil, bringing discredit on the profession and causing the old woman to be put far before the young doctor, especially in children's cases, few will deny. How large a proportion of the typhus cases are diagnosticated in the first instance? I believe typhus is always lurking about the slums of Belfast. I also believe it is rarely diagnosticated until an early death or a second patient in the same house arouses the doctor from his complacent diagnosis of "simple continued" or "gastric." Until recently half the typhoid was never diagnosticated at all. I know it was called "gastric," but gastric was used as meaning a symptomatic fever from gastric catarrh, or far oftener as meaning simple fever. I am quite aware that the typhoid of Belfast is usually a modified variety. As a rule, there is no diarrhœa, and often no eruption, though the latter would be found much oftener if looked for and recognised when seen. But that this North of Ireland typhoid is true enteric is proved by its long duration in many cases, and the fact that the very mild "walking cases" often end up with a profuse hæmorrhage from the bowels, or peritonitis from perforation, as we might expect from muscular effort during the third and fourth week.

That the very common failure to diagnosticate scarlet fever, measles, Rötheln, &c., injures the reputation of the whole profession, such cases as the following prove. A doctor is called to a case of Rötheln in the early eruptive stage. For want of inquiry as to the length of time the child was ill before the rash appeared he calls it measles. This often passes all right if the doctor remains in charge, but suppose he is absent for some reason, the character of the rash quite changes to a uniform red eruption; another doctor is called in, and he calls it mild scarlatina. In ten days the child is quite well, there is little peeling or other marks of scarlatina, and it becomes evident to the family or the old woman who is always called in to superintend the doctor that it was neither measles nor scarlatina. The public blames us for each mistake of this kind, even when the doctor could not have avoided it by any amount of care; but it is worse for the credit of the profession when the medical man can make no decent explanation or defence.

During a small-pox epidemic mistakes are very numerous, and of all kinds. Chicken-pox is called small-pox and *vice versâ*, small-pox is called scarlatina for a day or two, on account of the scarlatiniform erythema which so often precedes the true rash in small-pox, measles, and even typhoid; small-pox is even mistaken for acne and *vice versâ*, and small-pox for big-pox (syphilis) and the converse. If students studied skin diseases, or at least erythematous inflammation, a little more deeply, and comprehended the immense number of causes that may give rise to an extensive red rash, with more or less fever, we should at least be saved from the more ludicrous mistakes. Indeed, one of the most interesting questions now engaging dermatologists is the mode of production and grouping of the vast collection of cases comprising the disease erythema. Kaposi classes them as acute exudative dermatoses, and divides them into the "acute contagious exudative dermatoses represented by measles, scarlatina, Rötheln, and small-pox," and the "acute non-contagious inflammatory dermatoses." The last group is characterised by the fact that the inflammation of the skin begins by a disorder of the vascular tonicity and congestion—in fact, a vaso-motor disturbance or angio-neurosis as Eulenberg and Landois term it. This non-contagious family of erythemas Kaposi subdivides into three—1st. One containing the typical forms, idiopathic and toxic, also the many forms of erythema constituting the disease called urticaria, or nettle rash. 2nd. The varieties of herpes. 3rd. The forms of erythema due to burns, cold, erysipelas, &c. His first group, the typical erythemas, idiopathic and toxic, is the one we want to study in connection with the diagnosis of fevers. Hebra's idea of erythema multiforme does not include all the disorders at present placed in the class of erythemas. These skin inflammations, we should always bear in mind, can closely simulate the eruptive fevers as to the skin eruption, the fever, and even the affections of mucous membranes. Of these there are two classes, which Besnier has named "pseudo-exanthem"—they may very closely imitate the eruptive fevers—1st. Rubeoloids and scarlatinoids; these simulate the eruptive fevers throughout their course; they are both acute and febrile. 2nd. The scarlatiniform erythemas, a most important class not yet properly or completely known; these are febrile at the beginning, inclined to be only sub-acute, and apt to be of longer duration than the fevers they simulate. It must be admitted that it is often impossible to diagnosticate the rubeoloids and scarlatinoids from the diseases they so much resemble. The scarlatinoids are much the more common. They arise from infectious diseases, such as puerperal cases, surgical septicæmia, gonorrhœa. Such rashes explain many supposed cases of scarlatina after operations, after labour, &c., the origin of which was such a mystery that such patients were supposed to be able to take scarlatina without infection from a previous case. Such rashes may be primary from unknown causes, or due to a secondary auto-toxæmia. They frequently arise from a toxæmia due to certain drugs or articles of food. Idiosyncrasy has much to do with such cases. The scarlatiniform erythemata as distinguished from the scarlatinoids have often been described under other names, as recurrent scarlatiniform desquamative erythema, exfoliating erythematous dermatitis, &c.

The causes of the eruptions known as erythema multiforme are exciting much interest, and advances of much practical value are being made. It was thought that "rheumatism" had much to do with erythema multiforme. To-day the influence is considered slight, and the idea of rheumatism itself is being changed, as it is now highly probable that the term rheumatism covers a number of different diseases. Besnier says true rheumatism does not include erythema multiforme among its special characters, though this eruption can be induced by it *as by any other infectious condition.* We should never forget that this eruption may appear before or during typhoid, puerperal fever, gonorrhœa, cholera, infectious endocarditis and osteomyelitis, lymphadenoma (?), syphilis, leprosy, vaccination, surgical septicæmia, &c.[a]

The form of erythema called urticaria is well known to often assume the acute and febrile form which often causes much trouble in diagnosis. This disease is well known to all physicians, but they are apt to think that lobster or shell-fish is the only cause of the acute form. This is a great mistake, as quite a number of articles of food and drugs may give rise to it in certain constitutions—among these shell-fish, oysters, fish, mushrooms, strawberries, preserved salmon, cucumbers, vinegar, honey, walnuts, game, sausages, pickles, spices, and in individual cases all sorts of things. Then, urticaria is extremely apt to complicate other skin diseases, so that scabies, pediculosus, prurigo, and eczema will often be found to be the exciting cause. In the latter it is a reflex affection, due to scratching, and of course is most common in children who have the most delicate and sensitive skin; but the idea many men have that urticaria is almost confined to children is a great mistake. The sting of the nettle will produce the local symptoms in anyone, and the local application of mustard, turpentine, and many other irritants produce it in many. Far oftener it is due to disorder of the digestive organs, perhaps without the ingestion of any special drug or article of food, or it is the deranged digestive organs which cause the special article to prove effectual. Here another important point arises. In many children and adults derangement of digestion, or of some other function, perhaps aided by ingestion of some article which would be wholesome at ordinary times, will produce the fever without the eruption, and lead to the suspicion of some infectious disease. No doubt this is one of the commonest ways in which simple fever arises. Since early times it has been recognised that surfeit or indigestion produced by over-indulgence would cause a sharp fever.

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[a] Kaposi's Lectures, second French Edition, by Besnier and Doyon, 1891. Ohmann-Dumesnil, Jour. of Cut. and Gen. Urin. Dis., Aug., 1890. Stirling, Austral. Med. Gaz., April, 1891.

Another very common cause of urticaria in children and women is irritation of some of the mucous surfaces from worms or uterine disorder, menstrual disorder, pregnancy, &c. If the cause is round worms a few very small doses of santonin will speedily get rid of them—and I say small doses, because I believe that small doses are quite as effectual as large ones, yet are not attended by the disagreeable by-actions, such as yellow vision, and, in infants, convulsions, vertigo, and coma, with vomiting and purging, and occasionally death. It acts best in castor-oil, and one or two grains is enough for anyone.

But cases of thread-worms are often obstinate. They are best treated by the internal use of sulphur or Friedrichshall water, and the application of any mercurial ointment, as citrine, to the anus every night. This at once relieves the itching, and is very important, as the disease is kept up by scratching the anus during sleep, and then transferring the ova to the mouth—auto-inoculation in fact. These cases of acute febrile urticaria are the more likely to be confused with the exanthemata by the fact that very severe symptoms sometimes arise from sudden redness and great swelling of the mucous lining of the fauces and pharynx. A quickly-acting, sharply-purgative dose of some saline is the most prompt treatment for this, and if there is œdema of the glottis it should be followed by grain-doses of calomel every hour or half hour.

Acute febrile urticaria sometimes arises without obvious cause—a severe shock to the nervous system will sometimes cause it. If it arise from some article proving poisonous from either idiosyncrasy or deranged digestion or assimilation, it will often be accompanied by vomiting and diarrhœa, which are nature's cure. An emetic, if in time, or free purging, is the best treatment. If the stomach be not deranged, rest in bed, mild saline purges, fever diet, and then quinine, will be the treatment. Sedative lotions, containing benzoin, relieve the itching best, but acid lotions, such as vinegar and water, are much better than the commonly employed soda or alkaline washes. Hot baths, as a rule, should be avoided, as they usually increase the eruption and the irritation. Attacks of urticaria have followed dentition, the passage of gall-stones, puncture of hydatid cysts of the liver, the application of leeches to the os uteri, menstrual irregularities, abortion, and asthma.

Certain diseases are apt to be complicated by attacks—as jaundice, diabètes, Bright's disease, ague, rheumatism, and typhoid.

Medical men have recently had their attention called to the fact that many drugs will produce urticaria and the various forms of erythema by the frequency with which such results follow from the coal-tar derivatives, such as antipyrin, which often causes a rash very like measles, exalgin, kairin, phenacetin, thallin, &c. But besides these, very many drugs will give rise to severe eruptions. We are all familiar with the severe acne caused by the bromides, which I have known mistaken for both small- and big- pox, the still severer rashes caused by iodide of potassium, and the eruptions due to copaiba and cubebs which sometimes closely simulate measles and sometimes scarlatina. Besides these familiar instances there are many drugs which occasionally cause severe eruptions, which may sorely puzzle the young practitioner. Thus all essential oils—and turpentine occasionally—act like copaiba, capsicum, santonin, chloral, opium, morphin, salicylic acids and its compounds, iodoform, belladonna, and atropin, quinine, tar, carbolic acid, resin, arsenic, cannabis indica, digitalis, mercury, sulphur, and even the innocent, unsuspected rhubarb, may so cover a face with scabs as to puzzle the wisest as to the nature and cause of the disease. No doubt we are not nearly at a full knowlege of these occasional effects of drugs, and surely it is a subject worthy of attention. It may be useful to take a look at some of these eruptions.

Iodine and Iodides of all kinds.—These may cause—1st, erythematous patches (iodic roseola) on various parts, the redness may become raised into large disseminated papules, with a reddened surface around, very like ordinary urticaria; or 2nd, purpuric spots and petechiæ, especially on the legs—this is a common result of iodides; 3rd, rarely vesicular eruptions like a badly developed eczema; 4th, bullæ or large blebs on head, neck, and upper extremities, inclining to become hæmorrhagic; and 5th, acne-like red papules, becoming pustular in some instances, often so large as to resemble boils, very similar to the common bromide eruption. When it takes the acne form it chiefly affects the face and shoulders. It has been mistaken for small-pox. The fact that it is usually accompanied by other signs of iodism, especially the enlarged lymphatics behind the angle of the jaw, the violent coryza and flow from eyes and nose usually lead to its identification.

Bromides.—Alfred Sangster ("Dict. of Surgery," p. 15, Vol. 2) describes bromic eruptions as also presenting four forms—1st, ordinary erythema; 2nd, a maculo-papular rash closely agreeing with a common syphilitic rash; 3rd, bullæ inclining to be hæmorrhagic; 4th, the commonly observed pustular acne of face and chest, and an eruption which has been called confluent acne. When fully matured, it presents round flat tubercles, with thin moist epidermis, resembling condylomata; or thick brown crusts covering a moist surface, dotted with minute abscesses. Each patch has a dark red areola.

Iodoform.—The iodic and bromic rashes are bad enough, but I should like to know what a young practitioner would make of a bad case of iodoform poisoning. According to Ringer, iodoform in large doses internally is liable to produce a kind of intoxication followed by convulsions with tetanic spasms, *high fever*, mental depression, involuntary evacuations, widely dilated pupils, delirium, and sometimes sudden collapse and death. Even its external application sometimes produces serious symptoms, which may assume three forms—1st, coated tongue, total loss of appetite, nausea, and even diarrhœa; 2nd, rapid feeble pulse, which may rise to 140, may become irregular, and the case may show other signs of cardiac failure; 3rd, active and furious delirium, with hallucinations or melancholia, loss of memory, coma, and even sometimes convulsions and paralysis. These toxic effects of iodoform may be transient, or persist for weeks, or end fatally. Such poisoning is rarely seen in children, as their kidneys and elimination generally are so active that the poison cannot accumulate in the blood.

As might be expected, age favours the appearance of toxic symptoms, as also does debility or Bright's disease. Iodoform depresses cardiac action as part of its physiological action. In frogs it arrests the heart in diastole probably by its action on the cardiac ganglia. Like chloroform, ether, arsenic, phosphorus, and many other poisons, when given in fatal doses, iodoform produces profound fatty degeneration of the liver, kidneys, heart, and voluntary muscles. It is eliminated in the breath as iodoform, and by the urine as iodide and a little iodate. In large doses hæmaturia and albuminuria may occur, and after death a glomerular nephritis will be found. It is also said to excite acute poliomyelitis. Its local application has resulted in death several times, but used moderately there appears to be no risk. Hourly doses of 10 grs. of potassium bicarb. are recommended as an antidote to poisoning.

Belladonna and Atropin.—These may cause an extensive erythema—sometimes partially punctate, so that the resemblance to scarlatina is perfect; but usually it occurs in large patches, principally on the upper part of the body. There is no burning or itching, and it is not followed by desquamation. Sometimes the erythema more resembles measles, and, as belladonna-poisoning is attended by great heat of skin, dilated pupils, restlessness, and delirium, with perfectly dry and often red and painful throat, it requires care to distinguish it from the exanthemata. I have seen just such an eruption, and, indeed, a similar state generally, several times in women who had been drinking heavily for some days; the capillaries of the skin seemed to be quite paralysed. All the alcoholic cases recovered.

Belladonna-poisoning may result from the external use of the drug as liniment or even plaister, especially if excoriation exist.

Chloral.—The erythema caused by chloral is usually in patches, and affects the neck especially, the chest, the large joints, the backs of the hands, and feet. It is usually attended by heat and itching. The rash may take the form of true urticaria, or may be vesicular, papular, or even purpuric. Chronic chloral-poisoning is attended by great vaso-motor paralysis of the skin, conjunctivitis, and purpura on the legs are common.

Salicylic Acid and Salicylates.—Sangster gives three forms:—1st. Diffuse erythema, with puffiness or œdema about the eyes. 2nd. A rash of vesicles and pustules confined to the hands and feet. 3rd. Various hæmorrhagic rashes. The common salicylic rash consists of patches of erythema mixed with limited hæmorrhages into the skin. These are liable to be further changed by the profuse sweating produced by the drug.

Copaiba.—The commonest form is a roseola, attacking the hands, arms, feet, knees, and abdomen. The rash is slightly raised, so that it can be felt by the finger. It may be a true urticaria with much itching, or it may closely resemble a macular syphilide, or it may exactly imitate measles or scarlatina. When it occurs as urticaria the white centres of the wheals may be absent, so that the whole eruption is red. In order to distinguish between copaiba rash and the exanthemata we have the facts that the breath, urine, and even the skin and clothes of those taking copaiba smell strongly of the drug; then it does not prevail on the face more than elsewhere, as measles does, and coryza and catarrh form no part of the condition. I have seen copaiba rash exhibited to a class of students as a good example of the eruption of typhus by an eminent hospital physician.

As regards syphilis, the absence of any other symptom but a red rash should prevent any man from dreaming of such a diagnosis, although a man suffering from copaiba rash is usually the sort of man we would look for syphilis in.

Cubebs.—The rash resembles that of copaiba, but is more evenly spread over the body and without itching, which circumstances only make it the more difficult to identify. Usually, of course, one can ascertain that a drug is being taken if one only thinks of it. I think this a most important point in all diagnosis. All true diagnosis is by exclusion. Each man according to his lights, and often quite unconsciously, passes a certain number of diseases before his mind as possibly present in the case before him. These are rapidly dismissed one by one as something arises to the mind excluding each, until only one or two are left as possible. Where the careless or the imperfectly-instructed medical man usually fails is in passing before his mind quite too few possibilities. His list is too short. I think, in fact, if the medical man ever passed in review before his mind the possibility of some eruption being a drug-rash, he would be very unlikely to make a mistake. Where such mistakes arise it is from never considering the possibility of the drug origin. It may be due to deficiency of imagination in some men: imagination is a much more useful quality than is generally supposed. All great inventors and men of genius of all kinds have a great imagination in the direction, at least, in which their ability lies. No man could invent a new mouse-trap, not to speak of writing a poem or a novel, without unusual imagination, which presents images new as well as old to the mind—presents possibilities to the mind which it reasons on and dismisses until one arises which seems worth elaborating. So the able medical man, if a case presents any difficulty, keeps raising possibilities before his mind, which his reason may either dismiss at once or inquire into, until a possibility which becomes a probability, and then almost a certainty, comes before the mind and the diagnosis is made—as far as that man's ability can carry him. Men of little imagination often stop short for want of images from the imagination, and are content to say, "I do not know what this case is." Now, a man of imagination would have some opinion as to its nature, the correctness of the opinion depending on his medical knowledge and his mental ability or clearness of understanding.

Quinine has been known to cause erythema, urticaria, raised papular rashes, and even purpura. Of course such effects depend on an idiosyncrasy and are far from common, but sometimes the red rash is very pronounced and might easily be mistaken by a careless man for something else.

Tar, Turpentine, Resin, Carbolic Acid, Essential Oils of most kinds, have all produced various forms of erythematous inflammation of the skin. Lister's dressing has produced general urticaria involving the whole surface. The urticaria of turpentine is attended by much itching and irritation; it inclines to the face and upper part of the body. The rash may result from either the internal use or the external application of the drug.

Sulphur sometimes causes an eruption like imperfectly evolved eczema. Tar often does the same.

Opium and Morphin are often followed by urticaria, with great irritation. But in this case it is probably a mere nerve reflex from the scratching, because in many people any preparation of opium causes a severe itching. This causes scratching, which causes an eruption, aided by the perspiration to which opiates usually give rise.

Arsenical eczema is described in all works on medical jurisprudence, and is a subject of great importance, as it often divulges the fact that chronic poisoning is going on from some cause—arsenical wall-paper or arsenic in various dyes used for hat linings, stockings, shirts, drawers, gloves, &c. Arsenic is especially apt to be present in the coal-tar dyes so extensively used at present. These aniline dyes were supposed to cause skin eruptions themselves, and were denounced in consequence for a time in the medical journals. But this was a mistake, for, although these coal-tar derivations will cause eruptions when used internally as drugs, they do not do so when applied to the surface in the dry state as dyes. Dr. B. W. Richardson found that arsenic present as an impurity was the real offender in such cases. Everyone knows that arsenic has a powerful effect when used as an external application. If in the concentrated state, it is a powerful caustic, used by the cancer curers and often with great success; in more dilute form it will cause inflammation, the intensity of which is in direct proportion to the strength of the application. Thus Fowler's solution (1 per cent. sol.) causes corns and warts to dry up and exfoliate, and ʒi. of Fowler to the ounce of water makes an excellent wash for onychia and other unhealthy sores. Strong solutions of arsenic applied for some time will cause the skin to ulcerate.

Internal Administration.—But it is to the effects of arsenic on the skin when given internally that I wish especially to draw your attention. It is well known that the prolonged use of even small doses often gives rise to peripheral neuritis, especially of the intercostal nerves, resulting in herpes zoster or shingles. Now, this disease is often attended with considerable fever, as well as intercostal neuralgia, sometimes rather intense for a day or two previous to the eruption. This state of affairs is very liable to be mistaken for pleurisy, pneumonia, or pleuro-pneumonia, the more so as the medicinal use of arsenic is very liable to give rise to cold catching and even bronchitis, so that there is likely to be more or less cough as a complication.

I know that the tendency of arsenic to cause bronchitis has been denied by some authorities lately; but everything is denied occasionally, and unless my observation and experience are totally at fault, I have seen arsenic give rise to colds and even severe bronchitis so often that I always warn people taking it to stop cold baths and be very careful about exposure. It has also seemed to me that the use of the cold bath while taking arsenic has also a tendency to produce zoster—at least, I have seen a sea-captain patient of mine, who often suffers from a painful dyspepsia that single-drop doses of arsenic before meals relieves best, suffer twice from zoster under such circumstances. I know that a second attack of zoster is a curiosity, but in this case there could be no doubt about it: the new and the old cicatrices were mingled on his side the last time I examined him. Strange enough, his son, a lad of twelve years, had also an attack of zoster while taking arsenic for a painful stomach affection exactly like his father's. I made both these patients abandon the cold bath when taking arsenic, and they have had no more shingles, but whether in consequence I cannot say.

Besides the herpes zoster the prolonged internal use of arsenic is well known to give rise to a dirty browning of the skin, and even furfuraceous desquamation, especially in those parts covered with the clothes. Förster (*Berlin klin. Woch.*, No. 50, 1890; *Med. Annual*, 1892, p. 20) gives a case in a young lad with exophthalmic goître, who developed bronzing after long use of arsenic. The whole neck and upper part of the chest was brown coloured, and immediately under the nipples began a darker colour, which on his abdomen became deep brown, the back being lighter colour.

The buttocks and upper thighs were also dark drown, which grew lighter lower down. The eruption was quite symmetrical. Arsenic had been steadily given for eight months. Wyss recently reported two cases as above after a long use of arsenic for chorea. He called it melanosis. In one case, a boy of twelve years, the colour came out when he had taken arsenic only six weeks (3 drops, increased to 15 daily). It grew deeper afterwards, disappeared when the drug was stopped, and recurred when it was recommenced. In the second case, a boy of ten, the same thing happened after six weeks also.

Rhubarb.—Goldenberg (*New York Med. Jour.*, Dec., 1889) has shown that this drug may sometimes produce a severe eruption with fever. He gives a case where the patient's face was covered with brownish-red irregular pustules about the size of a pea to that of a bean, deeply infiltrated at their bases. There were many crusts, which, on removal, left a moist, bleeding, fungoid surface. This rash also occurred on both front and backs of the hands. The rash disappeared spontaneously in a few weeks after stopping the drug. It left no cicatrices, although bluish pigmented spots were left. In this case there was no fever; indeed, the general health was perfect. Goldenberg experimented twice subsequently on the same man, each time with the same result. The disease was so like pemphigus that it might easily have been mistaken for it. But M. Litten (*Therapeut. Monatshefte*, Dec., 1890; *Med. Annual*, p. 66, 1892) records a more serious form. While taking infus. rhei he had rigors and pains in the limbs; temperature 103·3° F. Then the face, lips, and tongue began to swell, the eruption being fully developed next morning. He then presented the following curious condition:—The face was very much swollen and covered with scabs, mixed with numerous ecchymoses and spots of purulent exudation. The scalp, beard, eyelids, and lips were affected equally. The whole body was covered with a polymorphous eruption, which, like that on the face, presented two types—subcutaneous hæmorrhages and pustules. The hæmorrhages varied from the size of a bean to that of a cheese plate, and were of all shades of colour from bright red to brown; they were scattered equally all over the body, face, and scalp. The pustules, as in Goldenberg's case, closely resembled pemphigus. Sometimes they became confluent, and so occupied large surfaces, as they were thickly scattered over the whole body, hands, face, scalp, &c. On the backs of the hands they were filled with clear fluid, which did not turn to pus. On removal of the scabs, shallow, dirty-looking ulcers were found. All the lymphatics were inflamed, painful, and enlarged. The mucous membranes of the nose, eyes, lips, mouth, and throat were equally affected with blebs and effusions of blood beneath the epithelium, and great swelling of all these membranes occurred. The tongue was as badly swollen and blistered as the rest, and this and the swollen lining of the mouth almost prevented speech. The urine was frequently loaded with blood, but sometimes clear. It contained no albumen or sugar, but was stained a deep brownish-yellow, as always occurs from the internal use of rhubarb, as was proved by its turning a deep purple red on adding caustic alkali. This urine reaction, and the fact that the patient was strong and well, but for the rise of temperature and the eruption, were the only points by which this condition could have been discriminated from some very serious disease, as hæmorrhagic small-pox, unusual secondary syphilitic eruption, &c. But even with these guides I should wonder what most young physicians would have made of the case, as the supposedly innocent nature of the drug given would have lulled suspicion of its being the sole cause of such an alarming state.

I shall not weary you further with drug eruptions. Most of you have personal experience of the scarlatiniform erythema produced so often by the modern aniline products, the measles-like and scarlatina-like rashes often following antipyrin, exalgin, phenacetin, &c., as these things are well known to cause eruptions one would not be apt to be deceived.

However, some of the rare and severe rashes brought out occasionally by iodide and bromide of potassium might puzzle any man. Dr. Norman Walker describes such cases in the *Lancet* of March 12th, 1892, p. 571, and the article would well repay perusal. He also gives many cases searched up out of foreign and American literature of a most instructive nature. He says the first reference to the tubercular form of iodide rash was by Ricord in 1842, then by Fischer, then by Tilbury Fox. Colcott Fox applied the term "condylomatous" to such eruptions, which gives one an idea of the forms they may assume. M'Hardy and M'Call Anderson also describe such. The latter relates a fatal case of iodide purpura. Nevins Hyde, of Chicago, gives, perhaps, the best account. Walker's case began as a red nodule on the bridge of the nose, and quickly became a tumour, occupying the lower half of the nose. It was elevated one-third of an inch, and looked exactly like an epithelioma. On touching it, however, it was peculiarly soft, sponge-like, and painless. But excluding epithelioma there was great difficulty in its diagnosis, as there were three other possibilities—mycosis fungoides, syphilis, and a dermatitis due to some drug. It had to be removed by the knife in the end. Time will not permit me to enter into the endless forms this tubercular iodide eruption may take. Those who wish more information should read the article mentioned.

Rashes with Uræmia.—Then we may have uræmia, with febrile symptoms, a temperature of 104° or 105° F., though such are rare, and we may have uræmic rashes. At the Clinical Society, London, Nov. 13th, 1891, Dr. Le Cronier, Lancaster, gave notes of eight cases. Such occur mainly in cases of chronic interstitial nephritis. These cases first showed as maculæ, and papules of a bright red colour on the extensor surfaces of hands, forearms, and legs, then rapidly spread over the whole body. In a few days the rash in every case underwent one of three changes—1st. Gradual subsidence, with very free desquamation, the true skin being left brawny and infiltrated; 2nd. Freely exuding eczema developed, the gummy fluid drying up forming crusts; 3rd. In the more severe cases, pustules, and even small abscesses, followed the previous or squamatous stage. All forms and stages presented severe itching. Such an eruption in uræmia is of very grave import. In seven out of the eight cases death occurred within five weeks of its first appearance. Such rashes show an evident analogy with the rashes due to pyæmia, ptomaïn-poisoning, and drug eruptions, being due, like them, to one or more toxic substances in the blood, which the diseased kidneys have been unable to get rid of. The eruption seems to be of the nature of a trophoneurosis. The article is well worth perusal (*Lancet*, Nov. 21st, 1891, p. 1169). For an account of febrile uræmia an article of M. Huchard in the *Revue de Méd.*, Feb., 1892, p. 163, or the *Practitioner*, May, 1892, p. 371, may be consulted. His case was a man, aged twenty-eight, admitted with uræmic coma. He had been drinking, but there was no lead-poisoning. There were epileptiform convulsions, sometimes spontaneous, but easily induced by moving the patient, owing to hyper-excitability of the muscles, and hyperæsthesia of the skin. The temperature on admission was 98° F., as is common, but it quickly rose to 100° F., and next day to 103°; on the third day it was 104·5°, after a series of alternations of coma and convulsions. The urine was very albuminous. Death occurred on the third day. Granular kidney was the only important lesion found.

Roseola, or Rose Rash, is another form of erythema which adds greatly to the troubles of the young practitioner. It is now generally used to signify any red eruption of an evanescent kind. How commonly it is mistaken for scarlatina is proved by the frequency with which mothers proudly announce that their children have had the distinction of a second attack of scarlatina. Such second attacks in reality are very rare, and when we hear such stories we generally conclude that the affection was really roseola in one, at least, of the attacks. Rashes of this kind are also often put down as Rōtheln, which is rare as a sporadic disease, usually occurring in widespread epidemics.

Roseola is very common in children; generally it is associated with slight gastric catarrh, or other digestive trouble. In infants very slight derangements of digestion, &c., or of the general health, will induce a roseola, which may take the form of a diffuse redness, or of scattered red patches. It usually consists of small rose-coloured spots, or transient patches of redness, which usually disappear in from twenty-four hours to a few days or a week. It is most common in hot weather. It is apt to attack the most prominent parts of the face and extremities, but may be limited to one limb. It itches slightly. The best means of distinguishing it from scarlatina and measles are—It wants crescentic arrangement of spots seen in measles, the dark red spots on the soft palate often seen before the measles rash comes out on the skin, and the constitutional symptoms of measles as a rule are more severe. It is of a deep rose colour, and not scarlet, like the rash of scarlatina, nor can it be resolved into the innumerable red points which form the scarlatina rash; neither are the roseola patches so uniform or diffused as in scarlatina. Roseola, though, is often preceded by sore throat, more or less, and catarrhal symptoms are so common in children that they often coincide with an attack of roseola, so that it often makes a very good imitation of measles or, still better, of Rötheln. But what occasions still more confusion is the fact that roseola is liable to come out from various poisons in the blood. Thus we find it preceding small-pox by a couple of days, just when the patient is getting into high fever, and who can avoid error under such circumstances? It also precedes scarlatina, measles, cholera, modified small-pox, typhoid fever, syphilis, diphtheria, malaria (Roseola febrilis). It may also either precede or follow the pock in vaccination. As the fever of these diseases is often present before the rose rash comes out, it is no wonder medical men are so often led astray.

Roseola, as we said before, accounts for most of the wonderful cases of scarlet fever following parturition and surgical operations, where the infection cannot be traced, for the best of reasons, and where no harm is done. Fortunately, in small-pox as well as after parturition and surgical operation, and in cholera, the rose rash has a peculiarity of seat which should put us on our guard. The rash may be very copious, but its characteristic seat is the lower half of the abdomen and the anterior and inner aspect of the thighs. It may appear elsewhere in these cases, but generally it is confined to the lower half of the body. It is part of a strange and interesting subject to say that in general the skin affected with this erythema remains entirely free from the small-pox eruption. In the same way, Neumann (Pullar's Translation, p. 89) says, speaking of the influence of one contagion on another: "Syphilitic eruptions of the muscular, papular, and squamous varieties disappear during the variolous process, as in all specific fevers. Syphilitic ulcers become unclean and covered with a thick yellow exudation; around and upon the broad condylomata small-pox pustules accumulate in great numbers. When the variolous process has exhausted itself, the former symptoms of syphilis reappear, but in a milder form. He argues from this that vaccination is not likely to make syphilis develop in a child. He also says that true small-pox shows a tendency to become confluent on parts where either an acute or chronic inflammatory process already exists. Thus a severe form of confluent small-pox is frequently associated with eczema, and if the eczema extend over the entire body, the life of such patients is much endangered if they are attacked by small-pox. We also find an accumulation of small-pox pustules on parts the seat of psoriasis, scabies, or other skin diseases. People affected with ichthyosis and prurigo are often freed from these diseases when attacked by small-pox. We have lately heard a great deal of attacks of erysipelas removing various morbid tumours, even cancers; and undoubted cases are reported in the journals.

Diagnosis of Erythema Roseola.—This is the only important point about this disease. It may be mistaken for Rötheln, measles, or scarlatina. Roseola is not contagious or part of an epidemic. There are none of the special prodromal symptoms of the eruptive fevers, such as marked sore throat, marked coryza, nasal and pharyngeal catarrh, &c. Nor does the rash come out after a definite period of fever, nor begin in a special part of the body. The fever does not last so long, nor is it in proportion to the rash. The temperature in roseola, when uncomplicated by an incubating fever, rarely goes above 101° F., usually 100°, whereas scarlatina often reaches 105° F., and measles 104° or 105°. Roseola may present some redness without swelling of the palate and fauces, some sore throat, but nothing serious, no catarrhal flux either from eyes, nose, or mucous flow in the pharynx. Then the fever before eruption is often only of a few hours' duration, whereas scarlatina has 24 hours and measles 72. In roseola the rash is not concentric like measles, nor punctiform like scarlatina, so that we are not likely to mistake roseola for typical measles or scarlet fever, but then there are cases of these diseases where most of the symptoms are wanting, and in spite of all rules many cases of great difficulty arise. For instance, the eruption of measles, instead of being in patches and mottled, may present a uniform red appearance like scarlatina. When this is so, the length of prodromal fever, the catarrhal symptoms, if present, and the nature of the epidemic, may prevent us falling into the error of calling it scarlatina. But how shall we be sure it is not roseola? It all ends in knowing the real exanthemata well, and in balancing probabilities and weighing evidence, until it have excluded all the diseases we can. Mild cases of Rötheln are easily diagnosticated, but severe cases may be very like either measles or scarlatina, or both, on different days. Mild cases of both scarlatina and measles are often very hard to diagnosticate. Often the sequelæ and the infectiousness are all that exist of scarlatina. A few points about Rötheln may be interesting. The prodromic fever is either wanting or of brief duration, rarely lasting more than a day. This prevents its confusion with measles, which has three days. Rötheln appears as small, circular patches and points of a rose colour. It may appear first on the back, but generally on the face and neck, extending more or less over the body within 24 hours. It fades and disappears in from 2 to 4 days. Itching is often present—sometimes severe. The rash differs from that of measles in being smaller, less papular, spots round instead of oval, not arranged in crescents. Increase of temperature in the eruptive stage is slight or absent, differing *thus even from mild measles.* The fauces, nostrils, and conjunctivæ are affected as in measles, but in a less degree. The larynx and bronchial tubes are rarely affected, or, if at all, but slightly. There is no tendency to bronchitis or pneumonia. Furfuraceous desquamation sometimes follows the eruption, but it is not the rule. As a rule, patients are hardly ill enough to keep the bed, but it may be associated with diphtheria or other affections which may prove fatal. The eruption may closely resemble scarlatina, but as regards temperature Rötheln is totally unlike scarlatina, excluding the few cases in which the latter is so mild as to be trivial. If Rötheln prevail in a place as an epidemic, and scarlatina be not prevalent, this fact may guide us. Rötheln is essentially epidemic, sporadic cases being rare; affects children chiefly, but is not very uncommon after puberty and up to forty. Far and away the majority of cases occur between 2–10 years.

ART. XX.—*On Three Cases of Enterectomy and Enterorrhaphy.*[a]

By KENDAL FRANKS, M.D., Univ. Dubl.; Fellow and Member of Council, Royal College of Surgeons, Ireland; Ex.-Sch., Trin. Coll. Dubl.; Member of Council, Surgical Section, Royal Academy of Medicine, Ireland; Surgeon to the Adelaide Hospital.

THE abdominal cavity has for many years afforded a fruitful field for surgical enterprise. No organ contained within its walls is too awe-inspiring or too sacred to escape the sacrilegious hands of surgery. They are enclosed and protected by a membrane which was formerly regarded with reverence and dread. The peritoneum has now lost many of its terrors. It is opened with as much *sang froid* as in former days it excited misgiving and fear. We have learned to treat it humanely; to protect it against those dangers which modern science has taught us to avoid; and we have found that our confidence in it has not been misplaced. It has been shown repeatedly that every abdominal viscus can be dealt with successfully. Either entire organs or parts of organs have been removed without injury to the organism as a whole—the hollow viscera form no exception.

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[a] Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, May 12, 1893. [For the discussion on this paper, see page 523].

It has long been known that portions of the intestine may slough away, as a result of strangulation in hernia, and the patient recover. Sir Astley Cooper has excised a gangrenous loop twice, and Ramdohr successfully removed a piece of intestine in 1727, and subsequently restored the continuity of the canal by a process of invagination. But on account of the inherent risks of the operation, the danger of peritonitis, the difficulties of efficient suture, and, consequently, the high mortality in the pre-antiseptic era, the operation was only attempted sporadically by the more daring spirits, and was not, until within the past few years, classed among the category of legitimate surgical procedures. The operation of excising a portion of the intestinal canal (enterectomy), and of suturing the divided ends together so as at once to restore the continuity of the canal (enterorrhaphy), is now very frequently performed, and with an increasing proportion of success. In this country surgery has not been behind in this respect. In 1886 Mr. M'Ardle performed pylorectomy for the first time in Ireland. It was again performed in 1889 by Sir William Stokes, and I am indebted to him for the privilege of having been present at the operation. Unfortunately both patients died. The Academy will also remember a very interesting paper by Mr. M'Ardle, in 1887, on enterectomy and enterorrhaphy, in which he related the case of a boy, aged sixteen years, from whom he excised a piece of the ileum, about 6½ inches in length, half an inch from the ileo-cæcal valve. Enterorrhaphy was performed, and the boy made an excellent recovery. At the time of the operation the vermiform appendix was excised and closed by three Lembert sutures, and an opening in another coil of intestine, where a fistulous opening had existed between it and the diseased ileum, was freshened and sutured.

Quite recently Dr. W. J. Smyly has recorded in a paper, read before the Obstetrical Section of this Academy, the case of a woman suffering from ileo-uterine fistula. From the character of the fæces, and the history of the case, it was evident that the uterus had ruptured during labour, and that a coil of small intestines had become strangulated in the rent. He says:—"Upon opening the abdomen, I found a loop of the ileum attached to the lower part of the posterior surface of the uterus. Having detached it and brought it out of the abdomen, it was found necessary to resect about two inches of the damaged portion; the divided ends were closed, and the intestinal canal restored by anastomosis, by means of bone plates. She made an excellent recovery, and when last heard of was working in the fields."

I am not aware of any other cases in this country in which a portion of the intestinal tract has been resected and the divided ends immediately sutured together, except three which I have performed at the Adelaide Hospital, and which I desire to lay before the Academy in the hopes that, together with the cases to which I have referred, a nucleus may be formed, round which other cases will be gathered, forming a record which may hereafter compare favourably with the work done in intestinal surgery in other countries. The first case has already been published elsewhere,[a] and I shall therefore only refer to it summarily:—

Case I.—The patient was a man, aged fifty-eight, of very temperate habits, and with a good family history, who was admitted into hospital under my care on Oct. 19th, 1888. He had been in good health until Oct., 1887, when he had severe attacks of diarrhœa, accompanied with pain in the epigastrium, whenever he ate beef or mutton. These attacks used to last for about a day, and were followed by constipation, which continued sometimes for ten days or a fortnight. Under medical treatment he improved, and was free from his former trouble for three months. The symptoms then returned, but the previous remedies failed to relieve him. He was obliged to restrict his diet to gruel, potatoes, bread and butter, and fish. A fortnight before I saw him, one night as he was getting into bed he noticed a hard lump in the abdomen, which "seemed to fall backwards when he lay down." He was a thin man, with a sallow, cachectic aspect, suggestive of malignant disease. On examination I found in his abdomen—which was soft and flaccid—a very hard, nodulated tumour, about the size of a large orange, which lay in the middle line just below the umbilicus. It could be manipulated without producing pain, and was freely movable in every direction except downwards, in which direction its range of motion seemed more limited. The diagnosis made was a tumour, probably malignant, of the omentum; but on account of the intestinal trouble I considered it was likely that the intestine was involved, and accordingly I made preparations for dealing with the intestine previous to the operation, which took place on Oct. 30th, 1888. An incision, about 4 inches in length, was made in the middle line below the umbilicus in the usual way, and the abdominal cavity was opened The tumour, which was found lying underneath the liver, was drawn out through the wound, and proved to be a malignant growth about the size of the closed fist, growing from the hepatic half of the transverse colon, which ran through the middle of it. The omentum, which consisted merely of a connecting band between the stomach and colon, was partially infiltrated, as was also the mesocolon, between the layers of which some enlarged glands, about the size of beans, could be felt. Resection was immediately performed. The tumour, with the involved portion of intestine, being well drawn outside the abdomen, was surrounded by two large flat sponges, clamped together by means of Wells' forceps, so as to shut off the field of operation as much as possible from the serous cavity beneath. The colon, on each side of the tumour, was encircled by a piece of catgut about two inches from the growth, and each of these was tied just tight enough to occlude the bowel without interfering with its vitality. The colon on each side was then divided with scissors. The great omentum was ligatured bit by bit close up to the stomach above and to the colon below, and divided between them to an extent corresponding to the portion of the colon to be removed. A wedge-shaped piece of the transverse mesocolon, which was involved in the disease, was excised; all affected glands between its layers were removed. The sides of the triangular cut in the mesocolon were then approximated by means of interrupted catgut sutures, and the ends of the colon thus drawn together. The ends of the bowel were then sutured together by means of fine silk passed according to Gély's plan—that is, a single row of sutures were passed parallel to the circumference of the gut, transfixing only the peritoneal and muscular coats. As each suture was passed it was knotted. When the intestinal suture was completed the colon was replaced, and the abdominal cavity was cleansed by pouring in a quantity of boracic acid solution at blood-heat, which was allowed again to pour out by turning the patient on his side, and the remainder was removed by careful sponging. The abdominal wound was then closed, and the patient was sent back to his bed. The operation lasted two hours. The length of colon removed measured five inches. On microscopical examination the growth proved to be a cylindrical epithelioma.

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[a] Trans. Medico-Chirurg. Society of London. Vol. LXXII. 1890.

On the sixth day there was a copious evacuation from the bowels, and on the ninth day he was allowed solid food by the mouth.

It is now nearly four years and a half since the operation was performed, and the patient is still in the enjoyment of perfect health in the west of Ireland.

Case II.—The second case was that of a man, aged forty-eight, who was admitted to the Adelaide Hospital on October 17, 1889, for extensive ulceration of the leg, due to varicose veins. He suffered frequently from constipation, and required large doses of medicine to affect the bowels. On December 30th, early in the morning, he was seized with violent abdominal pain about the umbilicus, and radiating from it. The next day vomiting set in and persisted. The pain came on in paroxysms, and was agonising. The bowels were absolutely confined, neither fæces nor flatus passing after the first day. After consultation we decided on performing an exploratory laparotomy. The abdomen was opened in the usual way on January 4th, 1890. We then found that the immediate cause of his trouble was volvulus of a coil of the small intestine in the left hypochondrium. This coil for several inches was in a condition of gangrene. The mesentery belonging to this portion of the intestine was thick and œdematous, and we found all the veins in it completely thrombosed. They felt like cords running through the mesentery, and evidently were not the result of recent disease. We were quite unable to account for this condition. It was evident, however, that, in spite of the serious condition of the parts, something should be attempted to relieve him of the intestinal obstruction. I accordingly determined to perform resection of the gangrenous intestine, and by immediate suture to restore the continuity of the canal. The bowel being held firmly by the fingers of my assistant, I cut it across with a pair of strong scissors both above and below the affected portion. Sixteen inches of the gut were thus removed, together with a wedge-shaped piece of mesentery. The edges of the mesentery were first united together with a continuous catgut suture, and then the intestinal ends were brought together by means of Gély's suture passed as in the former case. The abdominal wound was closed in the ordinary manner after the "toilet" of the peritoneum had been accomplished. The patient recovered fairly well from the anæsthetic and from the shock of the operation. The next morning he informed me that, even if he did not recover, the relief he experienced was well worth the operation he had undergone. Everything then promised well, but during the night symptoms of obstruction again appeared, and he died on January 6th, two days after the operation. A *post-mortem* was made the following day by Dr. Bewley. It was then found that the lower portion of the bowel, below the line of suture, was becoming gangrenous. The bowel was almost impervious at the line of suture, but whether this was the result of tying the stitches too tightly, or was due to the œdema accompanying the gangrene, we could not easily determine. I am inclined to think that the latter was probably the main cause, as the symptoms of obstruction did not recur for 36 hours after the suture had been applied. This was the immediate cause of death. The primary cause was due to a very remarkable and, I believe, unusual condition of thrombosis. At the autopsy we discovered that not only were the veins throughout a large piece of the mesentery completely occluded by old blood clots, but the same condition existed in the portal vein. An old firm blood clot was found extending through its whole length, and so filled it as to leave only a minute channel beside it for the passage of the blood. We were unable to ascertain the cause or origin of this state of the veins, but to it was unquestionably due the gangrene of the gut, and the volvulus we found was, I believe, the result of this gangrene. There was no leakage from the site of suture.

I do not think we can justly lay the fatal result in this case at the door of resection. I think from the condition I have described it is evident that death would have resulted in spite of any treatment which might have been adopted.

CASE III.—The third case was that of a woman, aged thirty-six, who was admitted to the Adelaide Hospital on the 22nd September, 1891. About three months previously she noticed a small swelling at the umbilicus, which came on after lifting a heavy weight. The swelling was easily reducible into the abdomen without the least trouble or pain. She consulted a lady friend, who gave her an abdominal belt, which she had worn for a month before I saw her. During these three months she had suffered much from headache, and complained of a good deal of tenderness over the abdomen, which she thought had enlarged.

At 4 a.m. on the morning of the 22nd of September, she awoke suddenly with a violent pain in the abdomen, and putting her hand down she discovered a large hard swelling at the umbilicus, which she tried in vain to reduce. Vomiting soon set in, and was frequent. Dr. Jones, of Rathmines, saw her about 11 a.m. He at once recognised the urgency of her case, and sent her into the Adelaide Hospital, where she arrived at 2 30 p.m. I saw her at 5 o'clock, and found her in the following condition:—She was a fairly well-nourished, healthy-looking woman, but she appeared to be in a very excited state. Her face was very flushed, and wore an anxious expression. She seemed to be in great pain, which she referred to the abdomen. Her tongue was furred; she did not appear to be at all collapsed. Her pulse was full, regular, and non-compressible; the temperature was normal. Her breathing was rather shallow, and she complained of its being difficult. She stated that she had had an action of the bowels the previous morning, but none since then. The urine was acid, s. g. 1030; urates were abundant, but no albumen or sugar. On examination I found that the abdomen was uniformly enlarged, and sufficiently tense to prevent any examination of the contained organs. On percussion the flanks gave a dull note; the rest of the abdomen was tympanitic.

At the umbilicus there was a tumour about the size of an orange; it consisted of two parts—the upper one small, with a raised rim, depressed in the centre, immediately corresponding to the umbilicus. It was of a reddish colour, evidently acutely inflamed. The lower one, larger and a little to the right side, was globular, extremely tense, and was of a bluish black colour. It was hard, very tender to the touch, and firmly gripped at the base. A hard, ring-like mass could be felt encircling its base.

No impulse on coughing. The abdomen generally could be manipulated gently without pain, except in the immediate neighbourhood of the tumour. The patient was given a sixth of a grain of morphia at 4 p.m. and again at 11 p.m. She vomited a few times during the night, but it was not stercoraceous; she slept at intervals.

Next morning, September 23, at 10 15 a.m., 30½ hours after the onset of the symptoms, the patient was placed under an anæsthetic by Dr. Piel with his usual skill, and assisted by Mr. Heuston, I proceeded to operate. I made a median incision directly over the tumour, and when the skin and fascia had been divided, a loop of small intestine was exposed. It was deeply congested, and at one place was quite black. Several constricting bands were successively divided, and the smaller tumour upwards and to the left was opened. It appeared like a small pouch, and contained a small portion of intestine. The umbilical ring was very thick, almost cartilaginous. When it was divided, the circulation gradually returned to the greater portion of the intestine, but the black portion seemed to be quite unaffected, and was evidently beginning gangrene. After a short consultation we determined to perform enterectomy—in the first place, because the intestine seemed incapable of recovery; and secondly, because the portion involved belonged to the jejunum, and an artificial anus, if established, would only postpone a fatal issue.

Accordingly I proceeded first to enlarge the original opening at the umbilicus by incising the tissues downwards towards the pubes for about three inches. This was done in order to be able to draw out the intestine so as to have sufficient room for suturing. When the abdominal cavity was thus exposed, a quantity of semi-gelatinous clear fluid escaped from the wound. It was so abundant that it was impossible to proceed with the operation until the greater portion of it had been removed. I inserted my hand then through the wound to ascertain the cause, and discovered that there was a fairly large ovarian tumour, about the size of a fœtus at full term, attached by a very broad pedicle to the broad ligament at the left side. It was a multi-locular semi-solid cyst. We determined to leave it alone for the present. We considered that the length of time necessary to resect the intestine and to suture the divided ends, together with the inherent dangers of such an operation, constituted a sufficient amount of risk in themselves without exposing the patient to the danger of prolonging the operation, and of adding to it the risks of an ovariotomy.

When a sufficient amount of the glairy fluid had been got rid of to allow us to proceed with comfort, the congested loop of intestine was drawn well forward, and then the abdominal cavity was shut off from the field of operation by means of two large flat sponges, placed one on each side of the loop of intestine, and clamped together with forceps, both above and below the loop. I determined to divide the intestine where it was healthy—that is, above and below the congested portion. Nine and a quarter inches of the gut had thus to be sacrificed. Before the intestine was divided the lumen of the bowel, both above and below, was occluded by means of Mr. Heuston's fingers. No clamp was employed. This method of securing the field of operation against the risks of fæcal contamination proved eminently convenient and satisfactory. The intestine was divided, first above and then below, with scissors, and a wedge-shaped piece was, at the same time, cut out of the mesentery, the divided vessels being secured. The next step in the operation was to sew up the mesentery, which was done by means of a fine catgut continuous suture. Great care was taken to close accurately the triangular spaces where the mesentery divides to enclose the gut. The method employed was this:—A suture was passed through both layers of the mesentery, close up to the intestine on one side, and then passed similarly through both mesenteric layers on the other side and firmly tied. This not only obliterated the triangular spaces, but helped to fix the divided ends of the intestine together. The remaining portions of the intestine were united by means of fine silk (Chinese twist) passed according to Gély's plan of suturing the intestines. The suture picks up only the peritoneal coat. It is passed in the following manner:—A long fine piece of silk is armed at each end with a fine needle. One of these needles is passed through the peritoneal coat of the upper end of the divided intestine, about $\frac{1}{4}$ of an inch from the edge, and passing parallel to the divided edge beneath the peritoneum, emerges again at a point about $\frac{1}{4}$ of an inch from the point at which it entered. The second needle enters the peritoneum covering the lower end of the divided gut, at a point exactly opposite to the point of entrance of the first needle, and emerges at a point exactly corresponding to the point of emergence of the first needle. When the silk is drawn tight the edges of the intestine invert, and when accurately co-apted the suture is tied in a knot. The needles are then passed in again, starting from the knot, and each needle picks up another quarter of an inch of peritoneum on each side, and the suture is again tied. This process is repeated until the whole circumference of the bowel has been dealt with. It will thus be seen that the suture is a continuous suture, but interrupted at every point of emergence and entrance by a knot. I closed the last portion of the intestinal wound with three Lembert sutures. The parts were then thoroughly cleansed and replaced in the abdominal cavity, where it lay upon the upper portion of the ovarian tumour. As much as possible of the glairy fluid in the abdominal cavity was drained off and some of it sponged out. The abdominal wound was then closed, a glass drainage tube being passed down through the upper part of the wound. Sal alembroth dressings were employed. The patient did not appear at all collapsed after the operation; she had a good colour, and the pulse was excellent, when she was restored to her bed. At 1 p.m. she got, hypodermically, $\frac{1}{8}$ gr. of morphia, and was allowed a little ice to suck. The morphia was repeated at midnight, after which she had a good night.

I need not weary you by detailing all the particulars as to the daily treatment and progress. Suffice it to say that she was allowed one teaspoonful of white wine whey every two hours from the first day, and a zymine suppository was administered every sixth hour, and the urine was drawn off regularly. She was dressed for the first time the morning following the operation (Sept. 24th). The dressings were pretty well saturated with discharge, and by means of a syringe and indiarubber tubing 8½ ozs. of thick yellowish fluid were sucked up through the glass drainage tube. The next morning the dressings were again saturated, and 4½ ounces were sucked out. On the fourth day, as no fluid could be sucked up through the glass tube, it was removed. The wound healed throughout by first intention.

No food was given by the mouth excepting the teaspoonful of whey and a little brandy and water until the evening of the 27th, when she got a teaspoonful of Denaeyer's peptonised meat. On the 28th—that is, the sixth day—she got ℥iv. of milk every four hours, and a teaspoonful of the peptonised meat every eighth hour. On Oct. 1st (the ninth day) she got some tea and toast. Nutrient enemata and zymine suppositories alternated every fourth hour during this period, and were finally abandoned on *Oct. 5th, the 13th day*, when *she was allowed solid food by the mouth.*

During this period the patient was troubled a great deal with flatulency, but otherwise her progress left nothing to be desired. The day following the operation she passed some flatus, and again on the morning of the fourth day. On the fifth day she got an enema of warm water, which came away immediately with scarcely any fæcal matter, but the bowels moved again five hours later slightly, the motion being fluid. The bowels acted once or twice a day from this onward.

On the 27th of October, five weeks after the performance of the enterectomy, the patient was in such a very satisfactory condition of health and strength that I considered it would be unwise to delay further the removal of the ovarian tumour. My chief fear was that if I delayed any adhesions which had formed would become organised and firm, and would materially increase the danger to the patient—especially as these adhesions would form between the sutured intestine and the tumour.

Accordingly, the patient being prepared in the usual manner, and placed under anæsthesia, an incision was made from the umbilicus to an inch above the pubes, and when the peritoneum was opened, there was a copious discharge of the same thick, gelatinous-looking fluid as at the former operation. The tumour at once appeared. The largest cyst was drained through a Lawson-Tait's cannula, then the wound in the cyst-wall was enlarged sufficiently to enable me to introduce my hand, and by this means to break up the numerous cysts of which the tumour was mainly composed. At last the tumour was sufficiently reduced in size to enable me to draw it out of the abdominal cavity. There were a great number of soft adhesions, which readily yielded to the fingers. The tumour was attached by one broad pedicle to the broad ligament on the left side. There was also a broad strong adhesion, binding it down to the right side of the pelvis, almost constituting a second pedicle. Both of these were transfixed and ligatured in sections, and were then cut across on the side of the tumour. When it was ascertained that there were no bleeding points the abdominal cavity was well flushed out with warm boracic acid solution (4 per cent.) and carefully sponged dry. I then sought for the sutured intestine; it was impossible to detect it with the eye, but I soon recognised it by touch. The line of union was so perfect that not even a contraction or depression on the surface marked the line of suture, but with the fingers a considerable thickening beneath the smooth surface of the peritoneum could be felt. When we had all inspected it, the abdominal wound was closed in the usual manner. The subsequent progress requires little comment. Suffice it to say that on the 14th day (Nov. 9th, 1891) the patient was allowed upon the sofa, and a fortnight later she left hospital perfectly recovered. I had an opportunity of examining her six months later. The abdomen was perfectly flaccid, soft and natural. She was in perfect health, except for occasional twinges of abdominal pain, probably due to flatulence.

A point of great interest in this last case, and one of exceptional occurrence, was the opportunity we had of examining the sutured intestine in the living state five weeks after enterorrhaphy had been performed. I do not think a better proof could have been afforded us of the value of this method of treatment than *seeing* so clearly the perfect union which nature had accomplished after suture—a union so perfect that to the eye it almost defied detection.

Another point in connection with this case deserves comment. It is generally supposed that the method resorted to in this case—namely, resection and immediate suture in gangrenous hernia—is an ideal method, a brilliant and showy operation, but one which exposes the patient to a great and immediate risk, and therefore one to be, as a general method of practice, condemned by prudent surgeons, and discarded in favour of the older, the easier, the less brilliant, but the safer method of establishing an artificial anus. Now this is not the case. I have recently investigated the statistics of these procedures. I have collected the records of gangrenous hernia treated in various hospitals by the formation of artificial anus, and I have also collected all the published cases of gangrenous hernia in which resection and immediate suture have been performed.

The details of this investigation will be published elsewhere, but the general result I may shortly state. The mortality which follows the formation of artificial anus, when undertaken for the relief of hernia in which the bowel is gangrenous, gives the very high percentage of 80·7. On the other hand, I have collected 222 cases in which resection and immediate suture have been resorted to, and I find that the death-rate is only 48 per cent. Hence the more ideal operation, that which endeavours to restore most perfectly the *status quo ante*, is also by far the safest for the patient.

Time will not permit me to discuss the many interesting points which these cases as a whole suggest. I will merely state some conclusions to which my experience in these cases has led me:—Firstly, as to the method of suture. In all three cases I employed Gély's suture, a suture which, being continuous, is more rapidly applied than the interrupted Lembert, and I have found it answer remarkably well. I am not, however, so wedded to it as not to think that a continuous Lembert would answer at least as well. The precise method of suture which we adopt is, I believe, a matter comparatively of little importance. Two points, I submit, are of paramount importance. One is that we must regard that form of suture as best which, with due regard to efficiency, can be most rapidly applied.

In enterectomy followed by enterorrhaphy, time is a matter of the utmost consideration. The other point is that we should always suture in healthy tissue. It matters very little if we remove a few inches more than is absolutely necessary. Statistics have absolutely demonstrated the truth of this, but they have also shown how fatal it is to remove one inch too little. Therefore, in enterectomy the best plan is to remove everything which is suspicious.

It will be observed that in my three cases I did not use a clamp to control the intestine. I relied, with confidence which was not misapplied, on the efficient control of the gut by the fingers of the gentleman who assisted me. Digital compression is far superior and much simpler than any form of clamp, and I am glad to know that so great an authority as Mr. Treves, who has himself devised a clamp, thoroughly endorses this view.

In conclusion I would observe that however admirable the technique may be which we employ, however great the dexterity of the operator, failure is sure to be the reward of procrastination.

If, Micawber like, we wait to see what will turn up, patients, whose lives might be saved by timely intervention, will assuredly drift into the vortex from which no tardy repentance or vain regrets on our part will avail to recall them. In no irreverent spirit I would say, "That which thou doest, do quickly."

ART. XXI.—*Hooping-cough and Measles as Notifiable Diseases.*[a]

By JOHN MARSHALL DAY, M.B., Univ. Dubl.; Resident Medical Officer, Cork-street Fever Hospital, Dublin.

EARLY in April, 1893, I got a notice from the Public Health Committee stating they had added to the eleven already notifiable diseases two more—namely, measles and hooping-cough.

Now few, I think, will cavil at the first disease being added, as practically it has been treated by most of the health officers as a dangerous infectious disease and sent to hospital from the various tenement houses and institutions in the city. But why, when putting measles on the list, did they not add its foster brother Rötheln, commonly called German measles; by not doing so they have left a loophole for the avoidance of notification, if any person be so disposed; also it is not the simple disease we used to consider it in days gone by; and lastly, its appearances are so deceptive that mild scarlatina and ordinary measles have been frequently mistaken for it with bad results. Methinks this judgment was founded on the same error that made variola a notifiable disease and overlooked varicella, which at times it is nearly impossible to diagnosticate from the modified form of the former disease.

Now, the pertinent question is, why do they notify diseases and send them to hospital or isolate them or disinfect? Evidently for the purpose of stopping the spread of the disease, and, if possible, lessening its virulence. I think it is now generally admitted as an axiom that this Act cannot be carried out without proper hospital accommodation for the diseases mentioned in the schedule, as all over England they are at present building isolation hospitals.

2nd fact admitted. All cases should be isolated and reported.

3rd fact. Isolation must be continued as long as it is possible to convey infection, although many will escape detection. It is not the poor so much as the better class of people that keep up an epidemic of scarlatina or measles by not continuing quarantine long enough.

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[a] Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland, on Friday, April 28, 1893. [For the discussion on this paper see page 521.]

And finally. The cost of isolation and hospital treatment should not be greater than the benefits gained thereby. Having allowed these points, we shall consider how hooping-cough, as a notifiable disease, is affected thereby.

Hooping-cough, according to Hirsch, is exquisitely communicable. Smith, in his treatise, says it is eminently contagious, and Ashby and Wright, whose experience of this disease in Manchester is very great, says passing an infected child in the street is sufficient to communicate it; and if one case occurs in an alley or laneway, it is tolerably certain to spread to all fit subjects. Von Ziemssen says the dry sputa are infectious, and quoting Letzerich, who described a fungus in connection with this disease, also speaks of the long life, reproductive power, and infectious nature of the materies morbi.

Lastly and not least, it is endemic in Ireland, according to Hirsch—a statement in accordance with, I believe, the experience of most medical practitioners in Dublin.

In order to show the nature, persistency, and endemic properties of this disease, we will proceed to analyse the Dublin death-rate for the ten years ending with 1891. If we consider the average rate founded on the number of cases certified as dying of hooping-cough, we find it 5·2; that of scarlatina and measles respectively 5·5 and 4·4; but if we compare the individual annual averages we find that whilst measles varied from 16·3 in 1882 to ·1 in 1891, and scarlatina from 10·5 in 1884 to ·1 in 1890, hooping-cough never fell below 2·3—that was in 1882—although it rose in 1883 to 9·5. Of course we recognise the fallacy underlying this basis, because the high death-rate may be due to increased virulence in the type of disease and not increased prevalence. If we take up the 15 decennial periods in England from 1841 to 1890 we find the death-rate varied only from 8·7 to 6·9 per 10,000. As regards its connection with diseases of the lungs and respiratory passages we find, in 1887, the deaths from these diseases were high, and deaths due to hooping-cough were below the average; in 1891 the exact converse took place.

We find the sequence of measles and hooping-cough well marked—in 1882 we had 567 deaths from measles, and in 1883

333 deaths from hooping-cough, and if we were to examine the quarterly returns we would find that they overlapped each other. Again, in 1885 and 1886 matters were repeated, and again on a lesser scale in 1887–8. To sum up and make a comparison, we find the following facts evident: Hooping-cough is always prevalent; it increased either in numbers or in virulence just after and overlapping an epidemic of measles: it preceded scarlatina epidemics twice—viz., in 1883–4 and 1886–7; its prevalence never dies away like measles and scarlatina; and when we consider Hirsch's statement that its death-rate is fairly constant, we must assume that the numbers affected are fairly constant also.

Now, will many of these cases be sent to hospital in the ordinary course of events? We must answer that question in the affirmative, because we find, taking averages of classes and averages of deaths from hooping-cough, that it is six times as prevalent amongst the classes that seek hospital treatment as amongst the upper classes. Secondly, we may certainly assume that, judging from the death-rate, either each year the number of severe cases will be large if the death-rate be due to a bad type, or the number needing isolation and removal from home or institutions will be large, even if the death-rate is caused by extensive prevalence of a mild type.

Now, preventive measures against endemic or even epidemic disease of this nature—highly infectious, long duration, difficult of diagnosis—to do any good and not bring itself into disrepute, must be thorough, efficient, and administered with an impartial hand, visiting with admonitions and penalties rich and poor alike.

It were no good to harass the poor people with doctors' notices, inspectors' visits, disinfecting cabs, &c., unless you can give them some benefit which they can see and appreciate.

They may say we keep them from school and disinfect the rooms when the case is well, we prevent them being with healthy children in institutions; that is all very well, but it is perfectly useless. Will you prevent them playing together? When is a case incapable of conveying the disease? Will you prevent them from entering railway carriages, trains, theatres, &c.; and how will you deal with the fact that at least twenty per cent. of hooping-cough cases are never recognised? In fact, it is so well known abroad that the French have a special name for those cases which present no definite symptoms of hooping-cough except that they are infectious, namely, "Coqueluchette."

We will now consider the suitability of these patients for hospital treatment. Ashby and Wright state that it does not spread in hospital wards, but Rogers says it does; and I remember three distinct epidemics which spread from one case accidently introduced into a children's hospital, where nearly all the country children were infected, in fact, I believe the only ones that escaped were those children who were protected by former attacks, hence we must conclude that isolation in hospital is necessary. And when we consider that if epidemics are concurrent, or, at least, overlap epidemics of measles, a disease, which except cholera, affords the greatest number of cases in the shortest time, where can we accommodate at such time measles, hooping-cough, and measles with hooping-cough?

Secondly, the duration of hospital treatment is very long. Hirsch says eight to ten weeks, often three to four months, in fact it may go on for a year. Barthez and Rilliet agree with this statement. The duration of cases with us admitted from institutions and treated to recovery was nine weeks, and it is often very difficult to say when you may discharge them. Lastly, it is not so severe a disease as is generally thought. Henoch places it fifth in the mortality columns of epidemic diseases. Also the vast majority recover health. With us only one child over three years of age died; he was a consumptive child of consumptive parents.

For these reasons I think the Public Health authorities cannot expect to cope successfully with hooping-cough with their present accommodation and resources. They are not trying to expel an invader or prevent his ravages, but they are attacking an enemy in their midst, who, although he never shows great strength of numbers, still carries on a guerilla warfare with a tenacity of purpose and constancy of attack against which they are powerless, no matter how vigilant their scouts, *i.e.*, the Medical Officers of Health, may be, unless they are prepared to aid in a liberal method the present isolation hospital accommodation in Dublin, and so follow the example of London authorities, who have materially lessened the death-rate from scarlatina by rigid isolation in hospital of most of the cases. The question whether treatment of these cases in hospital is a benefit to the children in question, and whether the evils arising from neglected complications that so often entail permanent injury, and end by making the subjects permanent charges on the rates from their inability to earn their own livelihood, I have carefully avoided as not coming under the scope of this question, and as being too involved to be included in this paper; still, it might be worthy of consideration on some future occasion.

Art. XXII.—*On the Diagnostic Value of the Diazo Reaction.*[a]

By W. R. Dawson, B.A., M.D., B.Ch., B.A.O., Univ. Dubl.; late University Travelling Prizeman in Medicine; formerly Assistant Registrar and Resident Medical Officer, Cork-street Fever Hospital, Dublin.

The daily-increasing demand for greater precision in diagnosis—a demand which is evidenced in one direction by the ever-diminishing number of cases of that somewhat unsatisfactory entity, febricula, as shown by certain returns—ensures a welcome for any means by which we can arrive at an additional fact to aid in deciding on the exact nature of obscure cases, particularly if the fact be of an objective nature. The most skilful diagnostician would often be glad of an infallible pathognomonic, could such be discovered, to which he might appeal in a doubtful case, for example, of that most protean of acute diseases, enteric fever, which in its atypical forms may simulate even such commonly quite unlike ailments as pneumonia and measles, not to mention tubercular meningitis, typhus, and acute miliary tuberculosis, so closely as to render the diagnosis extremely puzzling.

A consideration of the peculiar nature and composition of the urine, of the great variability of its constituents even in health, much more in disease, and of its function of conveying noxious substances from the organism, might lead one to expect that many diseases would give unmistakable evidence of their presence by the appearance of some distinctive substance in that excretion, and this would be especially probable with diseases of microbic origin, since, although the intracellular poisons of different micro-organisms may produce similar results, as recently shown by Klein, yet the toxins formed by them externally are different for every disease. Such unmistakable data, we may hope, will yet be forthcoming when more is known of the many obscure and complex urinary bodies which are still so little understood; but in the case of two diseases, at least, some important steps have already been made in this direction.

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[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, May 19, 1893.

In the year 1882 there appeared in the *Zeitschrift für klinische Medizin* an article by Professor Ehrlich containing an account of a new urinary test. Observations on the coloured bodies which diazo combinations, made by the action of nitrous acid on amido compounds of the aromatic series, form with various substançes, especially certain phenols and primary, secondary, and tertiary mono- and di- amines of the same series, had led him to surmise that such reactions might be obtained in the secretions and excretions of the human body, especially in the urine, and might, if present, possess some practical significance. Experiment also showed that should the body combining with the test-substance (diazobenzol) be alkaline, the reaction would only take place in an acid medium; if basic, in an alkaline. Ehrlich accordingly tested the urine of a great number of patients in this way, with the result that his expectations appeared to be completely realised.

The crystalline diazo bodies themselves being difficult to procure, he preferred to use for testing solutions in which they had been formed under the influence of mineral acids and nitrites, and such solutions have been ever since employed, although with slight modifications. A saturated solution of sulphanilic acid in strongly acidulated water is first made; for acidulating Ehrlich originally used nitric acid, but hydrochloric is now more commonly employed, the proportion in the formula from which my test solutions were prepared being 1 in 8. To this acid solution is added, just before use, a few drops, about 5 minims to the ounce, of a very dilute solution of sodium nitrite (1 in 200). The changes which thereupon take place may be expressed empirically thus:—

$$\text{(1)} \qquad NaNO_2 + HCl = HNO_2 + NaCl.$$

$$\text{(2)}\ \overset{\text{Sulphanilic acid}}{C_6H_4NH_2\cdot HSO_3} + HNO_2 = \overset{\text{Diazobenzolsulphonic acid}}{C_6H_5N_2\cdot HSO_4} + H_2O,$$

and the resulting fluid contains small quantities of sulpho-diazobenzol (diazobenzolsulphonic acid), to which the reaction is due, together with some excess of sulphanilic and hydrochloric acids, which are indifferent or beneficial. The advantage of this method of preparing the solution is that great accuracy in weighing and measuring is unnecessary.

The mode of applying the test, and the appearances when a typical reaction results, are as follows:—A test-tube is filled to about one-third of its height with urine and an equal quantity of the test solution is added. The resulting fluid may assume a yellow colour, which constitutes the *first part* of the reaction, but this does not invariably occur by any means. If now, however, some liquor ammoniæ or liquor potassæ be added, a more or less deep blood or port-wine colour at once appears, and the foam formed on shaking the tube is deeply tinged. This constitutes the *second* and really significant part of the reaction. The *third* and last part consists in the separation of a greenish-black or violet-black precipitate, which forms a layer on the surface of the light-coloured sediment when the tube has been allowed to stand for 24 hours.

Urine which does not show the reaction assumes some shade of yellow or orange on adding the alkali, and on standing throws down a precipitate which is of no particular colour.

More recently Ehrlich has modified the mode of application, by mixing the urine first with five or six times its volume of absolute alcohol, and then adding the reagent drop by drop.

Having tried the test with a great number of different diseases, Ehrlich came to the conclusion that, with the exception of phthisis, the morbid conditions in which the reaction is obtained are always of a febrile nature, and these he divided into three groups:—

1. Diseases in which the reaction is constant, as enteric fever and measles.

2. Diseases in which it occurs with greater or less frequency according to the nature of the attack, as erysipelas, miliary tuberculosis, septicopyæmia, pleurisy, scarlatina, intermittent fever, &c.

3. Diseases in which it is scarcely ever seen, as pneumonia and diphtheria.

The three diseases in which it was found constantly in a great number of cases are *enteric fever*, in which Ehrlich failed to obtain it in only two out of many cases, one of the two being a very mild attack; *measles*, in which it was never missed; and *phthisis*, in which it occurs constantly in the acute form, and also, though with long periods of intermission, in the chronic. In enteric fever it was found in many cases all through the course of the attack, and one or two days over the time of subsidence of the fever, in others it disappeared at the beginning of the remissions, or more rarely from three to five days before, whilst very seldom, and that usually in the lightest cases, it was found merely in the first three or four days of observation. In measles it invariably appeared at the commencement of desquamation, *i.e.*, about the crisis, and usually, though not invariably, during the eruptive stage. In acute phthisis it was, as a rule, markedly present during the whole course of the disease; in chronic phthisis it was present during periods of varying duration separated sometimes by long intervals, and this was the only disease in which it was found absolutely unconnected with febrile processes.

From these and similar data Ehrlich drew the following conclusions, amongst others:—

1. The reaction is one of the most constant symptoms of enteric fever from the middle of the first week on, so that its absence renders the diagnosis doubtful.
2. The reaction cannot be used for the diagnosis of enteric fever from diseases of the second group.
3. The occurrence of the reaction in croupous pneumonia indicates the supervention of complications.
4. The presence of the reaction for a length of time and in the absence of fever points to phthisis.

These conclusions are of sufficient importance amply to warrant the great interest which was excited, notwithstanding the fact that one of them expressly deprecates the use of the reaction in diagnosticating between enteric fever and such diseases as miliary tuberculosis, septicopyæmia, intermittent fever, &c., in which difficulties most frequently arise. Numbers of independent investigations followed (von Jaksch mentions no less than seventeen names altogether), with the usual result, that a difference of opinion has arisen as to the value of the reaction, some supporting Ehrlich's original view, while others go so far as to deny it any diagnostic significance whatever. One of the most important of the latter school, both on account of his large material and of the study he has given to the chemistry of disease, is Professor von Jaksch of Prague, and he speaks with no uncertain sound:—"From my own very numerous trials of the test," he says in the last edition of his work on Clinical Diagnosis, "I am obliged to deny that this reaction has any clinical significance, and I must above all warn my readers against seeking to draw any practical conclusions from its positive presence." In his opinion, it is simply an imperfect test for acetone, the presence of which explains its occurrence. Von Jaksch's successor in Professor Nothnagel's Klinik at Vienna, Dr. Lorenz, is inclined to ascribe to it a certain amount of value; but in the Charité Hospital at Berlin it is generally regarded, I am informed, as a somewhat indiscriminate accompaniment of febrile conditions. Others have found it, however, in non-febrile affections also, and it may be said that upon the whole the result of research has been to lessen the estimation in which the test is to be held.

Some years ago I made, by Prof. Purser's desire, careful observations on a small number of cases at Sir Patrick Dun's Hospital, the diseases selected being chiefly those of Ehrlich's first and second groups. The record is, unfortunately, not at hand, but a short general summary of the results ran as follows:—"I found that typhoid urine usually gave it" (*i.e.*, the reaction) "but not invariably, as it was absent in several well-marked cases. Measles almost invariably gave it, but apparently only during the height of the disease. I found it in phthisis, but never could obtain it" in a certain very advanced case in which the tuberculosis had become somewhat generalised. "Finally, the reaction was markedly given by the urine of a typhus patient, but this is the only instance in which I ever found it in any but the three diseases in which it is supposed to occur." The number of cases was, however, too small, and their character too restricted to render the results of much value; but it will be seen that so far as they go they tend to show that the presence of the reaction is not so constant in enteric fever and phthisis as Ehrlich supposed, and that it occurs in measles rather during the height of the disease than after crisis, when it usually ceased.

In the autumn of 1891, however, tempted by the amount of material lying to hand, I resolved to undertake a more extended research. Accordingly the urine of nearly every case admitted to Cork-street Hospital from about the beginning of September to the end of December was tested, and the results entered, with the name and diagnosis, in a formal record, from which statistical tables were afterwards prepared. The time was fortunately chosen, since there was then, as will doubtless be remembered, a severe epidemic of enteric fever, so that my material was particularly rich in cases of this disease.

The main facts sought to be arrived at by means of this investigation were the following:—

1. The diseases in which the reaction occurs.

2. The proportion of cases in which it occurs in each such disease.

3. The time at which it is usually found in any given disease in which it occurs.

4. The constant or usual occurrence or non-occurrence of any other marked peculiarity in the cases in which it is present, or from which it is absent.

As soon as possible after admission, therefore, the urine of each patient was examined as regards colour, presence or absence of deposit (and, if any, its nature), odour, reaction, specific gravity, and the presence, in addition to the diazo reaction, of albumin, sugar, and, except in the earlier cases, of indican also—the last test being applied in consequence of the claims which were at the time advanced for it as pathognomonic of typhoid fever in the absence of obstruction of the intestine. It was, of course, hardly to be expected that any of the substances above indicated would itself prove to be the cause of the reaction; and all that could reasonably be looked for from the constant coincident presence of one of them would be a rough indication to direct further research.

The diazo test was applied in the manner already described, but since the first part of the reaction seems to have no significance whatever, the yellow colour being present or absent indifferently whether the true reaction is subsequently obtained or not, it was consequently not noted. The second is the really important part of the reaction, and has been set down as positive when the colour could be called distinctly red, as distinguished from any shade of orange. The black precipitate which forms the third part was only unequivocally present in a very few of the tests, although I had often obtained it in the previous investigation; but this is probably attributable simply to the fact that the test-tubes and quantities of fluid used at the Fever Hospital were very small, so that but little black substance was usually formed, and hence the precipitate was merely tinged by it. Albumin was tested for by heat and nitric acid (which precipitates not only serum albumin, but albumose and globulin), sometimes supplemented by other tests; sugar by Fehling's, or, in a few cases, by Trommer's solution; and indican by hydrochloric acid and chloride of lime, the after-use of chloroform being omitted in the later cases when the test had grown familiar.

No tests were made to discover the presence of acetone, as I was not then aware that a causative connection had been suggested between it and the reaction; indeed, von Jaksch's third German edition did not appear for some months later. But although, therefore, nothing can be said as to its power of causing the diazo reaction when excreted in the urine, it most emphatically does not do so elsewhere. I have tried the reagent with solutions of acetone in water of various strengths up to 50 per cent., and also with a solution in urine, and in no instance did any of them show more than a yellowish orange colour, many shades removed from the lightest red that could be admitted as positive; and further, the depth of the tint was in all cases about the same whatever the strength of the acetone solution. Its presence in urine which yields the diazo reaction would therefore seem to be a mere coincidence—at least the red colour cannot be due to free acetone.

Before proceeding to give the results of my observations, however, it is right to state that absolute certainty cannot be claimed for them, as lack of time and other causes rendered it difficult or impossible to exclude all sources of error. Thus the tests were carried out in all kinds of light and at all hours as occasion served, and it was occasionally impossible to examine the urine for a day or two after it had been passed, delays which were the more serious, as febrile urine decomposes much more rapidly than normal, so that now and then it was quite turbid and did not clear on filtration. In order to try whether decomposition affected the diazo reaction. two urines in which the latter was present were allowed to stand in a moderately warm room for a fortnight. On retesting, one of them only gave an orange colour, but in the other the diazo reaction was again obtained. This test was, of course, a very severe one, as, it need hardly be said, the first-named sample was enormously more decomposed than any entered on the record; and generally speaking, the colour appeared to have no relation to the age of the urine (this is also true of the the indican reaction); moreover, the intervals between collection and testing have been noted, and the average found to be from one day to the next—probably very much under 24 hours. Lastly, the diagnoses assigned were merely those which seemed most probable at the time, and it was in the majority of cases impossible to verify them absolutely afterwards, even when death took place in the hospital. It is, therefore, as rough results only that the following are to be regarded.

The number of cases from which the statistics were compiled is 227, or, since many were examined more than once, some 297 sets of testings in all. In a certain percentage of these, however (which was noted), all the tests were not applied. The varieties of disease thus dealt with were 47 in number, and were as follow:—Enteric fever, 85 cases, including two in which typhus was simultaneously present, and one complicated by pneumonia; influenza, pneumonia, of each 20 cases; typhus, 10 cases; German measles, 8; bronchitis, 7, one of which was complicated with icterus; acute rheumatism, 7; scarlatina, 7; erysipelas, 5; febricula, 4; chronic phthisis, 4, phthisis complicated by bronchitis and by pneumonia, of each 1, and 1 case of subacute phthisis; whooping-cough, 4; constipation, 4; measles, 3; tonsillitis, 3; varicella, 2; and 1 case of each of the following:—Alcoholism with hepatic cirrhosis, broncho-pneumonia, cancer, cholera nostras, delirium tremens, obscure hepatic pain, icterus, laryngismus, leucorrhœa, lumbago, lumbago and sciatica, mastoiditis, meningitis simplex, meningitis tubercularis, mitral disease, neuralgia, pelvic inflammation, pleurisy, purpura, chronic rheumatism, septicæmia, stomatitis, and uræmia. There were also three or four practically normal cases, which have been retained for control purposes, and none of which gave a positive result when tested.

In 15 only of the above 47 varieties of disease was the diazo reaction at any time obtained, but these comprehended 167 of the 227 cases, leaving it questionable whether examination of a larger number of cases would not have shown it in some of the others also. The diseases in which it was present were alcoholism and cirrhosis, bronchitis, enteric fever, enteric + typhus, and + pneumonia, influenza, measles, meningitis tubercularis, acute phthisis, pneumonia, acute rheumatism, scarlatina, typhus, and whooping-cough. With regard to the case of alcoholic cirrhosis—a diseased condition in which Ehrlich failed to find the reaction—it should be explained that at the time the patient was in hospital she was suffering from a febrile attack, the nature of which was not very clear, except that it was almost certainly not enteric. The case of acute phthisis was really only subacute, and that of tubercular meningitis is open to question from those who deny that this disease ever recovers. It will be observed from the above that all the diseases showing the reaction were of a febrile character to a greater or less extent, which tallies with Ehrlich's observation; but the height of the temperature *per se* appeared to have little or no connection with the presence or absence of the reaction. Of the diseases in which the reaction did not occur, it may be mentioned that they included some belonging to Ehrlich's second group—*i.e.*, diseases which he found often give it, viz.—erysipelas, pleurisy, and septicæmia, but the number of cases was, of course, very small—five, one, and one respectively; and in four cases of chronic phthisis, and one each of phthisis + bronchitis and phthisis + pneumonia, one of the periods of intermission of which he speaks seems always to have been happened on. Lastly, a point which may prove of some diagnostic import, the results were absolutely negative with the eight cases of German measles examined.

Turning now to the proportion of cases in which the reaction occurred in each disease, and taking those of which more than one case was examined, the following is the result:—Enteric fever, 82 cases, 42 times; enteric + typhus, 2 cases, once; enteric + pneumonia, one case, once; total, 44 times in 85 cases of enteric fever, or a little under 52 per cent. It should be remarked that true relapses have been treated as distinct cases, and of these there were four included in the numbers just mentioned. None of them ever showed the reaction. Ten cases of typhus gave the reaction 5 times, and it was present in 3 out of 7 cases of scarlatina, 2 out of 3 of measles, 2 out of 4 of whooping-cough, and once in each of the following:—Influenza, 20 cases; pneumonia, 20; bronchitis, 7; and acute rheumatism, 7. Its presence in the single cases of cirrhosis, tubercular meningitis, and subacute phthisis has already been noted.

These figures seem at first sight to present some very striking differences from those given by Ehrlich. Tubercular meningitis, indeed, and acute phthisis gave the reaction as they ought, so far as can be judged from single cases; scarlatina showed it in about the right proportion for a disease of the second group, and in pneumonia, and the rest of the respiratory diseases, it appeared with a sufficient degree of rarity; but in measles it was absent once in three cases, and in enteric, as we have said, it was only found in about 52 per cent. of the cases, while of the testings, 131 in number, it was present only in 53, or about 40 per cent., so that it was found in this disease in an actually smaller proportion of cases than in typhus, in which it occurred in 5 testings out of 11, though of course the disparity in the numbers of cases renders any real comparison impossible. It is highly probable, it may be remarked in passing, that Ehrlich had had no opportunity of testing the urine of typhus (which he does not mention in his original paper) that disease being of extreme rarity in Berlin.

The divergence alluded to is, however, more apparent than real.

Ehrlich was able to test the urine of each of his cases many times, so that it is necessary to know also the period of the disease at which my tests were made if the two sets of results are to be compared. It may be said at once that of the cases of enteric which were tested more than a single time, and within the first three weeks, excepting relapses, only one undoubted case (and that an unusually mild one) failed to give the reaction, while it almost invariably disappeared at the end of the third week. The single tests show similar results. Thus taking the total testings, with the exception of 24, the date of which it was impossible to fix, and only 5 of which gave the reaction, we find that in two tests in the first four days of the attack it was not obtained at all; in 13 from the fifth to the seventh day it was found 7 times; in 40 in the second week, 29 times; in 15 in the third week, 12 times; once out of 18 in the fourth week; twice out of 9 times in the fifth, and never after. Thus it was present in 47 out of 67 tests between the fifth and the twenty-first day—*i.e.*, over 70 per cent.—and some of the cases which did not give it were doubtful. One of those in which it occurred in the fifth week was very protracted, the temperature not having fallen permanently until the sixtieth day. The periods at which the reaction was found in the other diseases may be more briefly dealt with. Excluding, as before, cases in which the date could not be fixed, we find that it was present in the alcoholic case at the beginning of the second week, as also in that of bronchitis and that of broncho-pneumonia. In influenza it was present at the end of the first week, in measles on the fourth and fifth days, while it was once missed on the third, but in this case it might have been found later had the test been re-applied after crisis. In meningitis it appeared at the beginning of the third week, in scarlatina on the tenth, eleventh, and eighteenth days—the last in a case which was very protracted, and followed by suppuration of glands, &c. In typhus the dates could not be very accurately determined, and in one of the cases showing it the diagnosis is doubtful. The case of subacute phthisis had been several months ill.

Thus the figures correspond much more closely with those of Ehrlich than would at first appear, but making all due allowances and deductions, it is clear that the reaction is less valuable as a diagnostic, in enteric fever at least, than he supposed. In the first place, its occurrence in the first three weeks of the attack is by no means constant; it is probably absent in at least 20 per cent.

of the tests, while prior to the latter part of the first week its presence seems to be quite exceptional. Secondly, it is present in at least a considerable proportion of cases of typhus, and also occurs very frequently in different kinds of tuberculosis, so that it cannot be used in distinguishing from these diseases; nor is it available to diagnosticate a morbilliform rash, such as occurs at times in enteric fever, from that of true measles; and thirdly, its occasional though less frequent occurrence in such diseases as pneumonia and diphtheria, to say nothing of influenza, reduces its worth still further. It is, however, undoubtedly more frequent from the fifth to the twenty-first day in enteric than in any of the other diseases except measles, or perhaps tuberculosis, so that if the time be taken into account, and these two diseases be excluded, it does certainly increase the probability, *ceteris paribus*, that the case in which it is present is one of enteric fever, while its absence speaks in a still greater degree against such a diagnosis. With measles. however, the case is different. The reaction here is almost invariable, and from what I have observed not only at Cork-street, but in the former investigation to which allusion has been made, I believe it will be found, with few or no exceptions, at one or other period of all attacks. In the previous investigation several cases were tested all through, and the reaction was found to cease about the time of crisis; but we have seen also that it may not begin until then (Ehrlich), though my observations seem to show that this is rarer. Now it is not often that any difficulty can arise in diagnosticating measles from scarlatina, in a considerable proportion of cases of which the reaction is found; but Rötheln in the early stages is often almost impossible to distinguish, and here the reaction may be of use should its absence from every case of the latter disease prove as invariable as I found it in the 8 cases tested, which were examined, 2 on the third, and 3 each on the fourth and fifth, days of the attack. The facts are at least so suggestive that it would be worth while to accumulate a little further evidence.

With regard to the concurrent presence of other abnormalities. since this does not, strictly speaking, come within the scope of the present paper, it need only be said that the presence of the substance to which the reaction is due does not appear to have any connection with the colour, deposit, odour, or reaction of the urine. The average specific gravity is somewhat higher in the cases in which the diazo reaction is found, and a rather larger proportion of those cases showed the presence of albumin and indican, the latter of which was observed in about 40 per cent. of the enteric fever testings to a degree that could be considered abnormal, whereas its proportion in all cases of the 16 diseases in which the diazo reaction was also present was 30 per cent. Sugar was only found six times, or in three cases, all of enteric fever, and it coincided five times with the diazo reaction. One of the three patients whose urine showed it was a lactating woman. The preponderance of the number of testings in which the diazo reaction concurred with any of the above, was not sufficient to justify any conclusion, not being greater than can be explained by the severer character usual in cases which show the reaction.

Finally, the substance causing it does not seem to be any direct product of the typhoid bacillus. Wishing to try this, I inoculated a tube of sterilised bouillon from a typical culture, and allowed it to stand for four days at the temperature of the room. The bouillon was then quite turbid, and having examined it microscopically for the presence of the bacillus, I applied the diazo test, but found that although the colour changed, it grew no deeper than orange-yellow. A portion scraped from the surface of a very old culture on agar and tested under the microscope, also failed to give any marked response. The same results, except that the colour was, perhaps, a shade lighter, were obtained with cultures of *Bacterium coli*. It is possible, however, although unlikely, that four days growth is not sufficient, and I hope later on to repeat the experiment with older cultures and growths on other media.

The conclusions, then, which seem to be warranted by this investigation are briefly these:—

1. That the diazo reaction is found in the great majority of cases of enteric fever at some period between the fifth and twenty-first days, and is more constant in that disease than in any other (of those tested) except measles, and, perhaps, acute phthisis, so that, with these reservations, its presence affords a presumption in favour of, its absence a much stronger presumption against, such a diagnosis.

2. That the reaction cannot be used either positively or negatively to distinguish enteric fever from phthisis or measles, and that the presumption which it affords against typhus is small.

3. That it is nearly or quite constant in measles, but absent in at least many cases of Rötheln, and may, consequently, be used to distinguish between them.

4. That the substance causing it does not indicate its presence by any peculiarity in the colour, odour, deposit, reaction, or specific gravity of the urine, nor by the presence of albumin, sugar, or indican, although their concurrence is not uncommon.

5. That it is not due to free acetone, nor to a direct product of the *Bacillus typhosus* of Eberth.

It only remains for me to express my regret that lack of time and facilities prevented the attainment of a higher degree of accuracy in the research, and, consequently, of certainty in the conclusions.

PHYLLANTHUS NIRURI.

THIS plant, N. O. Euphorbiaceæ, is a habitat of Porto-Rico, Reunion, and the East Indies. It possesses a bitter principal, "phyllanthin," of the formula $C_{30} H_{37} O_8$. An infusion of the leaves acts as a laxative and diuretic, and is employed in India as a remedy for constipation, dropsy, and jaundice. Ainslie employed the infusion, combined with that of fenugrec, as a remedy for chronic dysentery. The dried leaves are very bitter, and are used as a stomachic. Amadeo employed with success a tincture of phyllanthus in eight gramme doses as a remedy for long-standing malaria.—*Répertoire de Pharmacie*, No. 4.

THIURET.

THIURET (*Répertoire de Pharmacie*, April 10th, 1893), a new antiseptic, with the formula $C_8 H_7 N_3 S_2$, possesses the property of readily yielding its sulphur molecules in a nascent condition. On this depends its value as an antiseptic. It is a crystalline powder, almost insoluble in water, sparingly soluble in alcohol and in ether, and having feeble basic properties. Treated by alkalies, thiuret gives up sulphur and forms the ammoniate of phenyldithiabiuret and aniline. Heated to 105° C. in a closed tube, the salt decomposes, yielding sulphur, carbonic dioxide, ammonia, sulphuretted hydrogen, and the amyde of methylene, amidophenylmercaptan of Hoffman. Dr. F. Blum, of Frankfort, describes thiuret as an active bactericide. He employed the hydriodide, chlorhydride, ortho-crespinate, borate, and para-sulphophenate; the last he considers the most suitable for therapeusis; it is a yellow, crystalline powder, with a faint odour, but of an intensely bitter taste, soluble in water in the proportion of 3 to 4 parts in a thousand; insoluble in alcohol, ether, and oil. Administered internally it provokes purging.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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Cheyne-Stokes Respiration. By GEORGE ALEXANDER GIBSON, M.D., D.Sc., &c. Edinburgh: Oliver and Boyd. 1892. Pp. 133.

THIS essay is divided into three parts—Historical, Clinical, and Critical.

Its chief value lies in the admirable and exhaustive review of the literature of the subject given in the first part. This has, so far as we know, never before been collected with anything approaching the completeness to be found in this work.

In the second part the different diseases in which Cheyne-Stokes breathing has been seen are enumerated, and several original cases are recorded, and are illustrated by curves showing the peculiar characters of the respiration.

In the third part the different theories—all more or less unsatisfactory—which have been given in explanation of the phenomena are submitted to a searching criticism. Dr. Gibson looks on the symptom as due, without doubt, to a periodic variation in the functional activity of the automatic respiratory centre; but "whether the periodic variation depends simply upon the loss of the influence of higher regulating centres, or whether it is also, at the same time, the result of diminished vitality, in accordance with some great natural law, it is not at present in our power to decide."

Various Forms of Hysterical or Functional Paralysis. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. London: H. K. Lewis. 1893. Pp. 199.

THIS work is mainly occupied by an attempt to localise the regions affected in the different kinds of functional paralysis. The author points out that it is a grave error to use as synonymous the terms "hysterical" and "functional," since there are many examples of functional paralysis which cannot properly be classed as hysterical. Indeed, not more than one-third of all functional cases belong to the hysterical group.

A primary division is made into cerebral and spinal cases, the latter wanting all the characters of hysteria, as do also many of the cerebral group.

The following table gives the characteristics of the types which are differentiated by the author:—

Varieties.	*Characteristics.*
Cases of Functional Paralysis of Cerebral Origin.	
1. Affection of kinæsthetic centres in Rolandic and marginal areas alone.	Loss of muscular sense, with motor paralysis. Also slight loss of tactile sense, with defective power of localising.
2. Ditto, *plus* an affection of sensory region of internal capsule.	Ditto, *plus* more or less complete hemi-anæsthesia. (The paralysis flaccid or spastic.)
3. Affection of sensory region of internal capsule alone.	No motor paralysis. More or less complete hemi-anæsthesia (superficial, or superficial and deep, the latter including loss of muscular sense).
4. Affection of efferent fibres from kinæsthetic centres in Rolandic area.	Aphemia or hysterical mutism. If purely motor paralysis of limbs, then no loss of muscular sense.
Cases of Functional Paralysis of Spinal Origin.	
5. Affection of pyramidal system of fibres in spinal cord.	Spastic paralysis, with no distinct loss of muscular sense. Also no "cerebral hemi-anæsthesia" or other cerebral symptoms.
6. Affection of anterior cornua in certain segments of spinal cord.	Flaccid motor paralysis, with or without some loss of sensation. No distinct hemi-anæsthesia, and no marked loss of muscular sense.

The exact nature of the lesion of each part is very obscure, but it is supposed that vascular spasm often plays an important part in causing the symptoms.

Since the symptomatology is governed by the part affected, it is no wonder that the functional affections should simulate those of organic origin. Transitional forms are met with, and muscular atrophy, bed sores, incontinence of urine and fæces, nystagmus, may occur in the functional as well as in the organic cases.

We cannot but think Dr. Bastian stretches the limits of functional disease further than is usually done, as he speaks of cases functional at first, characterised by spastic paralysis lasting for many years, and finally passing into definite sclerosis of the columns of the cord. Most persons would, we think, look on such cases as being something more than functional from the first.

In order to form a final judgment in doubtful cases, we are ultimately compelled to rely on the following two sets of considerations:

"1. As functional defects tend specially to affect particular regions of the brain and spinal cord, we have to consider whether the grouping of symptoms met with in the case before us is such as our clinical knowledge has taught us may be due to a defect in one or other of such regions.

"2. We have to consider whether the mode of onset, coupled with the patient's general state, together with his or her immediate and remote history and family history, taken as a whole, most strongly favours the notion that we have to do with a malady due to mere functional defect, or to the existence of some organic lesion.

"This may seem a complicated procedure, and not too calculated to land us in certainties; but unfortunately it is the only safe method available for making a trustworthy diagnosis."

These are not very comforting reflections.

The prognosis of functional nervous affections is not so favourable as is often taught. Besides the tendency already noticed which some of them show to end in structural change, many cases get well only after years of continuous treatment.

The treatment consists in careful attention to the general health, correcting anæmia, vomiting, menstrual irregularities, insomnia, constipation, and so on. Electricity in its various forms, together with massage, brine, sulphur, or tepid needle baths, are of great service. The importance of moral treatment is dwelt on—the results of hypnotism have not been encouraging—while the Weir-Mitchell treatment, although often efficacious, is, owing to its costliness, possible only in few cases.

Very numerous carefully-recorded cases are given in illustration of each of the different kinds of paralysis described.

The volume concludes with three lengthy appendices—1st. The "muscular sense:" its nature and cortical localisation. 2nd. On the neural processes underlying attention and volition. 3rd. Is there a double representation of touch and common sensibility in the cerebral hemispheres?

In these the author's well-known views as to the real nature of cerebral localisation are clearly and attractively stated.

Lewis's Diet Charts. London: H. K. Lewis. 1893.

THESE charts form a suggestive set of diet tables for the use of physicians. They are intended to be handed to patients after consultation, and admit of being modified to any extent, so as to suit individual requirements.

Each packet consists of 100 charts, and costs six shillings and six pence; or by post, six shillings and ten pence halfpenny. There are in each packet charts numbered from 1 to 13, for use in the following diseases—albuminuria, alcoholism, anæmia and debility, constipation, diabetes, diarrhœa, dyspepsia, fevers, gout, nervous diseases, obesity, phthisis, and chronic rheumatism. In addition, there is a blank chart for any other disease which may require a special dietary not included in the above diet lists.

We are of opinion that these diet charts supply a much felt want, and will be of the greatest use to the systematic and careful physician.

A Manual of the Dental Laboratory: Its construction, management, and economy; the various implements and their manipulations; with laboratory notes and suggestions. By CHARLES HUNTER. London: Baillière, Tindall & Cox. 1892. Pp. 171.

THE author in this short manual has aimed at giving his ideas on the proper management of a dental laboratory rather than a treatise on dental mechanics. We here find not only good practical hints as to the fitting up of the various benches, choice of tools, lathes and vulcanizers, but also suggestions for the construction of the laboratory itself, or, where such a course is necessary, the adaptation of an existing apartment for this purpose.

The chapter devoted to altering and repairing dentures is thoroughly good, and evidently the outcome of ripe practical experience; it may be studied with advantage not only by students but by those already in practice.

The views Mr. Hunter so modestly places before his readers on the subject of crown bar and bridge work are those which to a great extent are now most generally accepted, and while we agree with him in deprecating its indiscriminate use on a large scale, we must contend that under certain conditions its limited application is the best service we can render to patients requiring lost teeth replaced. Still as this class of work is chiefly, if not altogether, carried out in the consulting room rather than the laboratory, and as the author merely mentions the objections to its employment, and instead of any instructions for its performance, we think that this section might have been omitted without any great detriment to the book. In other respects it is an excellent little work, and we can confidently recommend it.

From Hospital-Ward to Consulting-Room. With Notes by the Way: A Medical Autobiography. By a GRADUATE OF THE LONDON UNIVERSITY. London: H. K. Lewis, 136 Gower-street, W.C. 1893.

THIS interesting and well-written booklet contains an instructive lesson for the medical student and the general practitioner who has recently entered on the onerous duties of his profession. It sketches the career—with its struggles, disappointments and successes—of the writer (the son of a small tradesman), from his child's home in North Yorkshire, through school-room, dissecting-room, hospital ward, and general practitioner's surgery, to the now dignified position of a successful consultant. One of the principal aims, if not the leading ambition, of the author, was to possess himself of a high-class medical degree. He worked for this, after he had entered on general practice as a surgeon, *inter tædia et labores* for a considerable number of years, and his efforts were at last rewarded by obtaining the blue ribbon of medicine, the M.D. of the London University. His experiences of bleeding, blistering, nursing, shilling-a-mile visits, and doctor's bills of a former generation, are interesting and instructive reading. After some experience as a physician's assistant, he was induced by a relative to enter upon his own business of chemist, and a kind of regret appears to have remained that he did not make this more stable, and more reliably lucrative, occupation the career of his life. But it did not satisfy his ambition. "I had a strong attachment to the *Medical Profession*, and in all likelihood had I not returned to it, my life would have seemed to me less perfect, and far less full of interest than it has been; and, moreover, 'Mammon' has never been my chief good." Accordingly, he returned to pure professional work, and amid the toils and cares of a general practice, managed, by the exercise of praiseworthy industry and perseverance, to secure the great professional distinction of his early ambition, the possession of the M.D. of the London University. Similar perseverance—to which the writer ascribes all his success in life—enabled him to pass the difficult barrier which separates the work of a general practitioner from that of a consulting physician. Sorrow and disappointment enough had to be encountered in the way, as is usual in the history of human life. The attainment of the main objects of his ambition was followed, and marred, for some years by failure of health; but, with rest and care, this also improved. This little volume will be found a valuable moral lesson for the student and young practitioner, and is confessedly another tribute to the truth of Carlyle's dictum that "work is worship."

Burdett's Hospital Annual and Year Book of Philanthropy. 1893.
London: The Scientific Press (Limited).

THIS very convenient manual of reference will be found an excellent encyclopædia of information on the subject of hospitals and their management, and on the institutions related thereto. It consists of an introductory portion, which includes cxciv pages, and deals with the general considerations of hospital management, hospital expenditure, nurses and nursing, &c., &c.; and the main body of the volume, which includes 554 pages, and forms a directory to the medical schools, hospitals, lunatic asylums, convalescent homes, nursing institutions, &c., of the United Kingdom. A Colonial section is also included, followed by an American section.

The Year Book of Philanthropy includes sections on "Administration and Collection Societies," "Missionary and Religious Societies," "Orphanages, Homes and Charities," "Institutions for the Blind," "Do. for the Deaf and Dumb," "Homes for Inebriates," and "Vaccine Lymph Establishments."

Throughout the whole of the volume, the pains which have been taken by the editor in compiling his information and in bringing it everywhere up to date, reflect the highest credit on his industry and his judgment. "With the view of securing accuracy and eliciting the views of the secretaries and the committees of the various hospitals which appear in the tables, we have this year sent out the figures to each institution, with the request that they might be examined, criticised and returned. . . . . . In the result it is gratifying and creditable to be able to report that, with two exceptions, the whole of the secretaries have shown the greatest courtesy, and have also readily complied with the request for their co-operation in the matter." We heartily congratulate Mr. Burdett on the result which he has obtained in the carrying out of his onerous task. We trust that the volume will be found on the table of every one actively interested in the practice of medicine, and of every one who takes a philanthropic part in the alleviation of human suffering.

An Introduction to the Study of Diseases of the Skin. By P. H. PYE-SMITH, M.D., F.R.S., &c. London: J. & A. Churchill. 1893. Pp. 367.

"THIS Handbook is a reprint, with some variations and additions, of the chapter dealing with Diseases of the Skin which I wrote in 1886, to complete the unfinished work on medicine left by my late colleague, Dr. Hilton Fagge." Such are the modest words in which the author introduces to us in book form his well-known and universally esteemed chapters on skin diseases in the classical work of Hilton Fagge. Many who have known them there will be glad to possess the work in its amplified and yet more convenient form. One instructive and useful feature Dr. Pye-Smith has introduced in the form of tinted diagrams illustrative of the favourite seats and distribution of cutaneous diseases. This is a point of great practical importance, and one that has been to a large extent neglected by dermatologists since the time of the writings of the late Tilbury Fox. The book is well up to date, though in many cases the nomenclature of the earlier dermatologists is retained. But little prominence is given to the views of the modern French school as to the relation of animal parasites to many forms of cutaneous affection, and all through we find the influence of Hebra and the Vienna school predominant. "Leptothrix" occurs invariably in mistake for "lepothrix," the disease described by Wilson, but no reference is made to the observations of Behrend and others in the constant association of micrococci or bacilli in these cases. Treatment is rather scantily dealt with in the text, but an appendix of formulæ has been added, and will no doubt be found useful. Good as the book is, we cannot help wishing it were better. If Dr. Pye-Smith had only amplified it a little more, and given more consideration to modern theories, the book would have supplied a distinct want—a manual embracing the most modern theories in skin diseases, concise, and at the same time practical; but it falls short of this ideal. As it is, it is a slightly amplified reprint of the closing chapters of Fagge's "Practice of Medicine."

Year Book of the Scientific and Learned Societies of Great Britain and Ireland, comprising Lists of the Papers Read during 1892 *before Societies engaged in Fourteen Departments of Research, with the Names of their Authors, compiled from Official Sources.* Tenth Annual Issue. London: Charles Griffin & Company, Limited, Exeter-street, Strand. 1893.

THIS excellent Year Book is almost indispensible to writers of scientific papers.

The mere catalogue of papers read at scientific societies shows the drift of thought during the year—information which is of great value to the student of natural science.

How much the book facilitates study and saves time is known to all who have recourse to its pages. It is to the ordinary writer what Neale's "Digest" is to the physician and surgeon.

The Health Officers' Pocket-Book: A Guide to Sanitary Practice and Law. By EDWARD F. WILLOUGBY, M.D. Lond. London: Crosby, Lockwood & Son. 1893. Pp. 376.

DR. WILLOUGHBY has succeeded in compressing into a comparatively small and conveniently shaped book a wonderful amount of information on Sanitary Law and Practice; and arrangement, indices, and frequent tables make any desired information easily found. Part I. of the book deals with—I. Mathematical Practice. II. Meteorological Practice. III. Demography and Statistics. Engineering Memoranda. V. Sanitary Practice. VI.

Water. VII. Dietetics. VIII. Scavenging. Part II. deals with Sanitary Law. Each part has a separate index. As a convenient pocket-book, where accurate information can be speedily turned up, we can commend the Health Officers' Pocket-Book.

A Manual of the Operations of Surgery. By JOSEPH BELL, M.D., F.R.C.S., Edin., &c., &c. Second Edition, Revised and Enlarged. Edinburgh: Oliver & Boyd. 1892. Pp. 360.

IN reviewing a work which has reached a seventh edition, criticism is unnecessary if not impertinent. The mere fact of its popularity shows that it meets a recognised want, and is at the same time the proof of its high character. In the present edition the author has largely augmented the portion of the work dealing with operative surgery. Many new procedures are noticed, and some of them are dealt with in fuller detail. It is impossible to suppose that, in a book primarily intended for "senior students, house surgeons, and junior prectitioners," and compressed into the limits indicated above, the whole art of surgical operations should be fully and clearly set forth; but the merit of the book consists in this, that while the more recondite portions of the subject are lightly sketched in, due importance is given, and rightly emphasised, to the more ordinary if more simple requirements of everyday surgery. Though the illustrations are few, and mainly diagrammatic, Dr. Bell's descriptions leave little to be desired from the points of view either of clearness or conciseness, and we may be permitted to specially emphasise the excellent paragraphs dealing with excision of the mamma. Finally we may say there is no better book for students desirous of passing their final examination, and at the same time acquiring an excellent and reliable substructure on which to build, if necessary, their future career as operating surgeons.

Transactions of the American Pediatric Society, Fourth Session, held at Boston, Mass., May 2, 3, 4, 1892. Edited by WM. PERRY WATSON, A.M., M.D., Recorder. Volume IV. Printed by Bailey and Fairchild. 1893.

WE welcome all books on diseases of children. The medical curriculum is sadly deficient in the course of children's diseases required from the candidate for a licence; and we have little doubt but that this neglect of an important province of medicine is much to blame for the high death-rate of children under five years of age. Our American brethren seem to be more alive to the necessity of a careful study of the diseases of children than we are, and one of the most active societies in promoting this study is the "Pediatric," whose volume of transactions is before us. It contains twenty-one papers, together with a summary of the discussions to which the papers gave rise. We cannot within the small space at our command give an analysis or even a list of the papers; but we just mention that they are of a practical character: three of them deal with typhoid fever, three of them with diphtheria, one with rheumatism, and one with laryngismus stridulus.

Dr. Rochford, of Kentucky, read a paper on the "Anæmia of Tuberculosis," in which he tabulates the notes of 160 cases, providing a valuable mass of well-digested information, which is of great use as a reference to all engaged in the study of this most troublesome and fatal disease.

We have only one fault to find with the "Transactions"—namely, the paper on which they are printed is wretched, and the type is not of the best. It is a pity to find valuable contributions printed in so deterrent a style.

The Diseases and Deformities of the Fœtus: an Attempt towards a System of Ante-natal Pathology. By J. W. BALLANTYNE, M.D. Vol. I. Edinburgh: Oliver & Boyd. Pp. 252.

THIS is the first volume of what promises to be a most valuable and almost unique work. It is chiefly remarkable for the extraordinary industry and research displayed in the historical parts. In the earlier chapters a most exhaustive account is given of the knowledge of fœtal diseases, and of the causes which were supposed to produce them, extending from the most remote periods to our own time. In Chapter VIII. the different classifications of fœtal diseases are described and criticised, and the author's classification is given. This is as follows:—

"I. Idiopathic diseases—those originating, so far as is at present known, in the fœtus itself.

"II. Transmitted diseases—those due to diseases in the parents.

"III. Traumatic morbid states—the results of injuries received either during pregnancy or in labour.

"IV. Toxicological conditions—resulting from the administration of medicinal or poisonous substances to the mother.

"V. Death of the fœtus, and *post-mortem* appearances."

The diseases particularly described in this volume are some of those belonging to the first class—namely, those affecting chiefly the subcutaneous tissue—these are general dropsy and general cystic elephantiasis.

General dropsy is described as a rare condition of the fœtus, characterised by general anasarca, by the presence of fluid effusions in the peritoneal, pleural, and pericardial sacs, and usually by œdema of the placenta, and resulting in the death of the fœtus or infant before, during, or immediately after birth.

The case in which there are twins, one of which is dropsical and the other healthy, is considered separately, since the characters and causation of the disease are here different from those met with where there is only one fœtus; for, while in the latter the disease is due partly to fœtal and partly to maternal causes, in the case of the twin the ætiology is essentially fœtal and ascribable to absence or anomaly of the heart, of part of the vascular system, or of the lymphatic system.

Elephantiasis congenita cystica universalis is provisionally defined as a very rare disease of the fœtus, affecting chiefly the subcutaneous tissue, leading to an increase in its dimensions, and the formation in it of cysts of various sizes with clear serous or curd-like contents. The disease is one that implicates the subcutaneous tissue all over the body, but is often very pronounced in a special region—that of the head, for example. Whether it is of the nature of a chronic inflammatory œdema or of a lymph stasis must, in the present state of our knowledge, remain uncertain.

It is important to note that a large proportion of the cases of this condition have occurred in one of twins or triplets, the other being healthy. The author inclines to the belief that general cystic elephantiasis is simply a more advanced stage and a graver form of general fœtal dropsy.

From a general review of the literature of the subject "it would seem that the term congenital elephantiasis has been applied to conditions which differ very considerably amongst themselves; and if this name be used in speaking of them all, it must be conceded that in some of them its most characteristic feature—hyperplasia—is absent. Still, if œdema be regarded as the initial lesion, it is possible to look upon the different conditions found as the intermediate links in the chain that has simple œdema at one end and general hypertrophy of the tissues—cutaneous, subcutaneous, muscular and osseous—at the other. For it is possible that œdema, when chronic, may lead to hyperplastic changes in the various structures affected. It may, in fact, take the place of the cause of irritation which can usually be found in acquired elephantiasis. Perhaps, also, the various appearances found in different cases may be due to the nature of the œdema, which may be in some inflammatory, in others obstructive, and in yet others hydræmic. Other minor differences may depend upon the period in intra-uterine life when the morbid process began, upon its severity, and upon some peculiar predisposition to one or other pathological change existing in the tissues affected. By some such theory as the above it seems possible not only to group together general dropsy in the single and in the twin fœtus and general cystic elephantiasis, but also to recognise that these states have a close relationship with such localised affections as congenital elephantiasis limited to one or other part of the body, cystic hygroma, macroglossia, macropodia, and fibroma molluscum."

In the last chapter a remarkable case is described, whose exact pathological nature is somewhat doubtful, but which is provisionally regarded as an example of general obesity of the fœtus with dropsy.

The text is illustrated by several well-executed plates, many of which are original, and show the appearances seen in the author's own cases. The volume concludes with a good Index.

On Peripheral Neuritis. A Treatise. By JAMES ROSS, M.D., LL.D., &c., and JUDSON S. BURY, M.D. London: Chas. Griffin & Co. 1893. Pp. 424.

THE earlier part of this work is by the late Dr. Ross; it has been completed by Dr. Bury, to whom is due nearly half the volume. The section on neuritis in diabetes is by Dr. R. T. Williamson.

The following is the classification of the different forms of peripheral multiple neuritis adopted by the authors:—

"I. The idiopathic form—
    (1). Acute (Landry's paralysis).
    (2). Sub-acute.
    (3). Chronic.

'II. The toxic form—
  (1). *Diffusible stimulants*: alcohol, carbon monoxide, bisulphide of carbon, di-nitro-benzene (roburite), aniline.
  (2). *Animal poisons*: diphtheria, typhoid and other fevers, septicæmia, syphilis, pneumonia, tubercle, malaria, beri-beri, leprosy.
  (3). *Metallic poisons*: lead, arsenic, mercury, phosphorus, silver.
  (4). *Endogenous poisons*: rheumatism, gout, chorea, the puerperal state, diabetes.

"III. The dyscrasic form—Chlorosis, marasmus, cancerous and other forms of cachexia, vascular degeneration.

"IV. Sensory, vaso-motor, and trophic neuritis—
  (1). The neuritis found in cases of ataxia, and which has been named *neuro-tabes peripherica.*
  (2). The vaso-motor neurosis, first described by Weir Mitchell under the name of *erythromelalagia.*
  (3). Raynaud's disease.

"V. The irritative form of neuritis in which spasm predominates over paralysis—
  (1). Tetany.
  (2). Professional hyperkineses."

The account of Landry's paralysis is probably the most exhaustive and critical that has ever been published. Upwards of 90 recorded cases are tabulated and analysed. We can only allude to some of the points which are brought out by this analysis.

As to the causation of the disease, 8 cases are attributable to diphtheria or septicæmia, 17 to alcohol, 5 to variola, 4 to typhoid fever, 2 to measles, 8 to syphilis, 1 to tubercle, 2 to the puerperal state, 1 to malaria, 1 to splenic fever, 1 to rabies, 2 to perchloride of mercury, and 1 to carbon monoxide. Thus 53 out of 90 cases can be assigned to the usual causes of neuritis, leaving only 37 whose cause is unascertained.

In 71 cases sensory disorders were present, such as formication, numbness, tingling, pain. In 14 cases they are not mentioned, but were probably not absent; while in 5 only were they stated to be absent. All these cases arose suddenly as a sequel to acute fever, ran a rapid course, and were fatal in 4 out of the 5.

Since the knee-jerk has been known and looked for, it has always been found absent, but in one case it soon returned. The statement that the electrical reactions remain normal is not borne out. It is common to find the reaction of degeneration in its complete, or more frequently in its partial form, in which there is an inversion of the normal formula of galvanic contractility.

The terms ascending or descending as applied to the paralysis, cannot be used to imply that the muscles are attacked according to the order in which they are innervated from the spinal cord. "The word ascending is only applicable to the course of the disease in the sense of centripetal assigned to it by Landry; and the word descending is erroneous as descriptive of the symptoms either in the anatomical sense that the muscles are attacked according to the order in which they are innervated from the spinal cord from above downwards, or, when used as the opposite of centripetal, to imply that the muscles of the trunk are the first, and the peripherally placed muscles the last, to be attacked."

So far as the results of anatomical investigation go, they tend to show that the essential lesion is to be found in disease of the peripheral nerves and nerve-roots rather than in the nerve centres. In rapidly fatal cases there may be no discoverable lesion in the nerves.

In the chapter on alcoholic neuritis we find the unexpected statement that in the Manchester infirmary both alcoholic neuritis and cirrhosis of the liver are more frequently due to beer-drinking than to any other form of alcoholic indulgence.

In the section on diphtheritic paralysis, the great frequency of this affection as a sequal to diphtheria is pointed out. Three out of every four cases of diphtheria in children are affected, and almost every case in adults suffers from paralysis more or less.

Contrary to what is often stated, the cases in which the membrane was dense and widely distributed over the back of the throat were those in which paralysis most surely followed, especially in the general forms in which the muscles of the extremities and trunk are implicated. There is no relation between the abundance of albumin in the urine and the degree of the subsequent paralysis. The paralysis almost always begins in the muscles of the soft palate or lower extremities, and these muscles are much more frequently attacked than any others. Then follow in order of frequency and of lateness of involvement, the internal and external muscles of the eye, those of the upper extremities, the heart, the muscles of respiration, and last of all those of the face.

In conclusion, we can only express our sense of the great value of this work, which gives by far the fullest and most complete account of peripheral neuritis which has as yet appeared.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—George H. Kidd, M.D., F.R.C.S.I.
General Secretary—W. Thomson, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—Andrew J. Horne, F.R.C.P.I.
Sectional Secretary—F. W. Kidd, M.D.

Friday, March 10, 1893.

The President in the Chair.

Living Specimens.

Dr. W. J. Smyly exhibited a successful case of Symphysiotomy.

Mr. M'Cullagh exhibited a case of Spina Bifida, eleven months old, previous to treatment.

Ovarian Tumours.

Dr. Smyly exhibited two specimens of ovarian tumours. The patient from whom the first specimen was removed was aged twenty-six. Upon examination he found the tumour attached to the uterus, and it moved in every direction with it. He found an indistinct fluctuation, and considered it was a case of myoma and not of ovarian tumour. On opening the abdomen it turned out to be a dermoid tumour of the ovary, complicated by cancerous disease. Having evacuated a considerable amount of fluid he found the lower end of the tumour attached to the uterus. He was able to divide the broad ligament and get the tumour outside the cavity of the abdomen, but he found that of two cancerous pieces which were broken off one was attached to the uterus and the other to the bladder. He then had to remove one-half the uterus, and he regretted now that he did not remove the whole uterus, but the woman appeared to be in such a condition of collapse that further prolongation of the operation would be dangerous. This condition of collapse was one of the greatest difficulties which occurred to him in abdominal work. To make sure of drainage he opened the posterior *cul-de-sac* and put in a rubber drainage tube. She recovered very rapidly from the shock, but the discharge from the tube became putrid, and she died.

The second specimen of ovarian tumour was one of cancer, and it was a curious coincidence that both patients were very young women. The abdomen was greatly distended with ascites, and, on opening, a thick gelatinous fluid escaped. It appeared to be an ordinary proliferating cyst, but, to his surprise, on plunging in a trochar scarcely any fluid came out. He then opened it with the knife, and on putting in his finger broke down about a hundred cysts. He extended the incision and removed the tumour, which consisted of an enormous number of very small cysts. When he had ligatured the pedicle and removed the tumour he found that the pedicle was diseased lower down and that the omentum was full of cancerous nodules. He removed one of them and sent it for microscopic examination and found that his diagnosis was confirmed. At the same time the woman had peritonitis, and the intestines were covered with lymph. She also died.

The **President** said they were two remarkable specimens on account of the ages of the patients.

Hernia of the Broad Ligament.

Dr. Alfred Smith showed a left broad ligament, with a well-marked hernial opening situated half an inch from the uterus, and directly under the Fallopian tube. The patient, aged forty-five, from whom this unique specimen was removed died with symptoms of intestinal obstruction. On opening the abdomen it was found that six feet of the ileum had passed through this hernial opening, and was strangulated. There was a small dermoid cyst of the corresponding ovary, which had become adherent to the abdominal wall, and considerably stretched the broad ligament.

Ovarian Tumour.

He also showed an ovarian tumour removed from a woman, aged seventy-eight years; it was the size of a five-month pregnant uterus. As the patient was so feeble and broken down in health, it was necessary to nourish her for four weeks before operating. The result was most satisfactory, the patient enjoying now excellent health.

Discussion on Abdominal Section.

Dr. W. J. Smyly, at a previous meeting of the Section, had read a report of 112 cases of abdominal section. [It will be found at page 281.]

Dr. Alfred Smith said, in the first case of ovariotomy a very peculiar accident happened, and that was the hæmorrhage which could only be arrested by the perchloride of iron, with the result that a band of adhesion formed from the cervix which caused strangulation of the intestine and death of the patient. He thought it was a mistake to have used the perchloride of iron. He himself used infusion of matico and found it to answer very well. He thought in this case the sloughing and fresh adhesions were due to the perchloride of iron. Under the head of uterine appendages a very interesting point occurred to him, and that was with regard to resection of the ovaries. He meant the case in which the ovary was not removed in the hope that the woman might be able to bear children. This innovation was brought about in Germany, but he thought that where there were evident adhesions it was almost useless to leave a small portion of the ovary behind. Therefore, unless they could make out whether the Fallopian tubes were pervious or not, leaving a small portion of the ovary would be useless. Under the head of myomata he would like to ask Dr. Smyly what points guided him as to why in some cases he removed the appendages whereas in others he performed the larger operation? there were only four cases in which he removed the appendages; was the larger operation absolutely necessary to recovery? The proportion of the simpler operation seemed to him to be a small one. He was very glad that he did not follow the method of sinking the pedicle. He thought it a very bad operation, although the result had been fairly good. Still, when one thinks of the amount of surface that is likely to slough, and of the hæmorrhage, it is an operation that is likely to fall into disuse. Dr. Smyly seemed to be quite in favour of the entire removal of the uterus; but they should be aware of the dangers which are likely to follow entire removal of the uterus. Recently a great number of cases of intestinal obstruction followed this operation. It was found that the cause was due to the intestines becoming adherent to the fresh wound over the vagina, and a great number of cases were lost. The method of enucleation was done very seldom in this country, but he thought it was one which deserved to be done oftener, because it leaves a very good uterus behind. He would like to know if Dr. Smyly experienced any trouble in enucleating this fibroid tumour, as in cases which he had seen there was a considerable amount of hæmorrhage, with difficulty in arresting it. Another point of interest was that under the head of peritonitis. His experience was, that if it is general septic peritonitis, it is absolutely useless to operate. If it is localised, then you may operate satisfactorily. In tubercular peritonitis he thought draining and washing out the peritoneal cavity does not do much good. The method of draining the peritoneal cavity, drying it and powdering it with iodoform gave much better results.

Dr. Atthill said, under the head of ovariotomy they had forty-three cases and out of these seven deaths, which at the first blush would be a very excessive mortality. But when they came to look at the details of the cases they were absolutely unreal. In the first case—the girl of nineteen—her abdomen was full of fluid, and the right side of her thorax was tapped twice, and on opening the abdomen it was found to be a mass of maligant disease. He did not think that should come under the head of ovariotomy at all. Then, No. 3 was three weeks previously in another hospital, and was pregnant; in fact she was in the very worst possible state for operation. Then, No. 4's abdomen was full of colloid matter. Lastly, you have the dermoid case, which was also a colloid cancer. He thought these four deaths should be removed, which would leave only three deaths in forty-three. With regard to removal of the appendages his own experience was borne out, and the only deduction he could make was that removal of the appendages ought to be considered a very serious operation, and not to be lightly undertaken. His own experience was, that he would prefer cases of ovariotomy to cases of removal of the appendages. In complete hysterectomies they had only one death in five, and that led him to infer that complete hysterectomy is not so dangerous as the operation of amputating the uterus about the centre and treating the pedicle externally. With due respect to Dr. Smith, he often used perchloride of iron in the abdomen, and he never found it very dangerous.

Mr. Foy said, with regard to the styptic properties of matico that no fluid preparation of it had any such power. It possessed this property by virtue of the ridges in the under surface of its leaf. He thought it a strange thing that the best preparation of iron—*i.e.* the persulphate—was not used. Even this had not the styptic power of chloroform [illegible] the latter does not cause clots. He thought that the fatality attaching to the operations was owing to the fact that women were allowed to go to the verge of the grave before they were operated on. He hoped that the example of Dr. Smyly, who had placed before them his failures as well as his successes, would be carried out by all succeeding operators.

Dr. Parsons said a point of interest was the extreme rarity of one kidney being affected with tuberculosis and the other not. He would like to ask Dr. Smyly whether when the woman returned to hospital two years later there was any pus in the urine or any tuberculosis in the other kidney.

The President said, the first remarkable thing that struck him was the enormous number of tube cases that Dr. Smyly happened to meet with in the three years; in fact they formed one-sixth part of all abdominal sections. Up to recent years in Dublin it was considered that women never had enlarged tubes, and it simply arose from the fact that they had not been diagnosticated. When one comes to deal with the living, and is about to justify an operation, one has first to consider as to the recovery of the patient, and, secondly, as to whether the operation will diminish their sufferings; and this is one of the most difficult questions to decide. He had come across patients who had both ovaries and tubes removed and still their sufferings were very intense, so that a bleeding fibroid of itself would not necessitate removal of the pathological mass. Over and over again he saw women suffering from hæmorrhage, and when the characteristic period appeared the tumour reduced considerably in size. It would be an interesting point if a complete record of these cases of laparotomy were kept, and then after a year or two to know if any complications occurred, and how many returned to perfect health. Perhaps Dr. Smyly in his next Report would be able to give us a short *résumé*.

Dr. Smyly, in reply, thanked sincerely all the gentlemen who spoke on his paper. As to the results of the operations he stated them as they occurred, without any object in view. To classify all the abdominal sections he found a matter of great difficulty. They might get 200 ovariotomies without any complications, but his cases did not come forward in that way, and he had to try different kinds of classification. From the percentage of mortalities he considered the operation for pyosalpinx a very dangerous one. He agreed with all that Dr. Smith had said. The reason he used the perchloride of iron was because it was highly praised by Tait, who has had a large experience. Then as regards the choice of operation in myoma; he found that many of these small tumours did not want to be operated on at all, and that is why he removed so few of them. In operating for hæmorrhage, though, he would certainly remove the ovary. He learned from experience that in cases of general septic peritonitis abdominal section was useless, but in localised or tubercular peritonitis he thought it had done great good. Then as to myomectomy; that, of course, was the typical operation, but he did not care for it if it takes the patient to the cemetery; and, so, unless cases happened to be very favourable he would rather take the entire uterus. One of the cases of death from hysterectomy was due to a mere accident, and he found the enucleation of the tumour from the substance of the uterus the most dangerous, with the exception of enucleation from the cellular tissue of the pelvis. In reply to Dr. Parsons he said the urine from the one kidney did not contain any pus, and the patient was now a fine fat girl.

SECTION OF STATE MEDICINE.

President—E. MacDowel Cosgrave, M.D.

Sectional Secretary—Ninian Falkiner, M.B.

Friday, April 28, 1893.

The President in the Chair.

Dr. Day read a paper on the advisableness of adding measles and hooping-cough to the eleven already notifiable diseases. [It will be found at page 486.]

Dr. J. W. Moore said he thought that Rötheln and varicella should be included under the list of notifiable diseases, owing to the difficulty of distinguishing them in the early stages from measles and variola respectively. One of the chief objects in notifying diseases was with a view to the removal of the cases to hospital; but there was another—namely, to ascertain the number of cases of infectious diseases occurring in a district. He did not think that children in hooping-cough would be benefited by a stay in hospital, as they needed abundance of fresh air. Some time ago he had heard Dr. Duffey speak in high terms of praise of thiocamf in the treatment of this disease. It set free sulphurous acid on exposure to air, and might be used internally, externally, or as an aërial disinfectant. He wished also to point out that the death-rate was not a trustworthy test of the prevalence of a disease, as some epidemics might be mild and others severe, and in the case of hooping-cough the death-rate would be largely influenced by the weather.

Mr. Delahoyde said he always endeavoured to have both true measles and German measles removed to hospital. An extension of hospital accommodation for children was greatly needed. Many parents objected to letting their children go to hospital on account of insufficient accommodation.

Dr. Byrne said that, owing to the very infectious nature of measles in the incubation stage, for the prevention and isolation of measles, it would be necessary to remove also all the junior members of a family, one of whom happened to be affected. He did not believe mothers would bring children suffering from hooping-cough to doctors if they knew the cases had to be notified.

Dr. Oulton stated that he believed the Notification Act was badly managed, because medical men as a body did not act according to its requirements. A doctor who did so might become unpopular and damage his practice, owing to the dislike the parents had to have the cases notified. If medical men as a body acted up to the requirements of the Act there would be no trouble on this account.

Mr. Flinn said that the Act would never be properly carried out till some medical men were prosecuted for failing to comply with it.

Dr. Parsons said he thought that, from a scientific point of view, the notification of measles and hooping-cough would be a benefit, but that there would not be much practical advantage, owing to there not being space for the cases, especially if Dr. Byrne's suggestion were acted upon. Another difficulty would arise in regard to the length of stay of the cases in hospital.

The **President** stated that he had been residing in Huddersfield, where compulsory notification was the law, and was also carried out, and he never found any trouble among the people. He thought prosecution to be the only remedy for failing to comply with the Act, especially if some leading member of the profession were the person summoned. He thought that, in hospitals where there were special wards for particular diseases, measles was treated in what was practically a children's ward.

Dr. Day, in reply, stated that parents were losing the objection they formerly had to sending their children to hospital. The real objection they had was to the after-disinfection of their rooms. Ordinary cases of hooping-cough were not usually taken into hospital unless suffering from complication.

The Oaths Act, 51 *&* 52 *Vict., cap.* 46, *sec.* 5.

Dr. Ninian Falkiner brought the consideration of the Oaths Act, 51 & 52 Vict., cap. 46, sec. 5, before the Section.

The **President** said that this was one of the points on which combined action should be taken.

Mr. Flinn also said that the members of the profession should act in a united manner.

The following resolution was proposed by **Dr. Falkiner**, and seconded by **Dr. J. W. Moore**, and passed unanimously:—"That the Section of State Medicine recommend the Council to submit to the next General Meeting of the Academy a proposition in favour of substituting, on hygienic grounds, for the practice of kissing the book in Courts of Justice, the practice of 'swearing with uplifted hand,' as provided by 51 & 52 Vict., cap. 46, sec. 5."

The Section then adjourned.

SECTION OF SURGERY.

President—**Edward Hamilton**, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—**R. L. Swan**, F.R.C.S.I.

Friday, May 12, 1893.

Sir Wm. Stokes in the Chair.

Mr. Kendal Franks read a paper on three cases of enterectomy and enterorrhaphy. [It will be found at page 475].

The **Chairman** said they were all of one mind in considering the communication they had just heard as one of great surgical importance. With regard to the operation of pylorectomy which Mr. Franks has alluded to, he said that the prolongation of the operation was mainly due to the sutures that were employed. He thought that if means were devised by which the intestines could be sutured more rapidly the great shock, which in many cases was the cause of death, would be avoided. He agreed with Mr. Franks in reference to the superiority of the fingers over the clamp, because the latter must be applied with such an amount of force as could not be often properly measured. He thought too much praise could not be given to Mr. Franks for the industry he had shown in collecting the statistics of those 222 cases. An important surgical question that, occurred to him was whether, in the event of finding that gangrene had taken place, they should perform resection at the site of strangulation, or whether they should perform laparotomy, and thus be enabled to see how far any infiltration had taken place. He was sure that in a large number of the cases in which the operation had been fatal, death was due to not having excised the infected portion of the gut. He thought the probabilities were that in the future they would open the abdomen and perform laparotomy, and do a much larger excision than at the seat of the gangrene. He thought too much importance must not be placed on statistics, because cases of strangulated hernia were very much more favourable than they used to be, and in some cases the gut may not have been really gangrenous at all. Where the bowel was actually gangrenous, he thought the chance of recovery would be far better by opening the abdomen and getting a full view of the seat of the lesion than by performing an operation at the seat of strangulation.

Mr. Swan remarked that the increased success of abdominal section, for all classes of visceral lesion, would cause surgeons in future to modify their treatment of strangulated hernia. He referred to a case of femoral hernia in which taxis failed and symptoms of acute obstruction set in. He opened the abdomen, and with the greatest ease drew the knot of intestine out of the ring, and at the same time performed the radical cure by stitching the pillars of the ring together. The case made an excellent recovery. The explanation of the facility with which the hernia was reduced was easy to demonstrate. When a hernial protrusion is pushed against a small aperture, the transverse diameter of the protrusion is increased; whereas, if the part is withdrawn from behind, there is the greatest facility for its escape. He thought that the cases mentioned would lead them to open the abdomen, which would be the most advantageous method in cases where there was gangrenous mischief in the gut.

Mr. Ball said that Mr. Franks had gone so very fully into this important and difficult subject that there was very little room for discussion. He said that Mr. Lawson Tait advocated laparatomy, not alone in all cases of strangulation, but also in all cases for the radical cure of reducible hernia. He saw Mr. Tait perform this operation some years ago, and certainly the ease with which it was reduced was very remarkable.

Mr. M'Ardle said in reference to his case of pylorectomy the delay in suturing was primarily the cause of collapse, and the operation lasted for an hour and a half. He referred to a case of Mr. Tait's, where after cutting down upon a femoral hernia he found it impossible to reduce the hernia, but the slightest amount of traction after doing median laparotomy resulted in drawing in the bowel with the greatest readiness. He thought, however, that when the bowel is gangrenous there is danger of infecting the peritoneum, and secondly there was danger of lacerating the bowel in their efforts at traction. He agreed with Mr. Franks as to the value of immediate resection, because they had no conception of how high the gangrene might occur. He thought septic intoxication very likely to occur from artificial anus. He considered the new anastomotic plates brought out by Dr. Murphy for suturing the intestines together much better than the plates of Senn, as too much time was spent in placing the latter plates in position. He likewise did not like to use the continuous suture, as it was likely to produce necrosed spots in the bowel. These plates had been described by Dr. Murphy as reducing the length of the operation from one and a half hours to half an hour, and in that case he thought they would be more fortunate in their pylorectomy operations. They only required to pass a strong suture round the mouth of the bowel and the plates fitted into position. He agreed with Mr. Franks as to the evil result of procrastination, and he was glad to see him so strongly advocating the immediate resection and suture of the intestines.

Mr. Franks, in replying, thanked the members of the Academy for the extremely kind way in which they received his paper. With regard to Mr. Swan's treatment of strangulated femoral hernia, he himself tried that method in one case, and was surprised at the extreme ease with which the intestine came out. It also has the advantage that if the intestine is gangrenous you can deal easily with it. In the two cases of gangrene of the intestine which he detailed, it would be observed that in the first case he did not know that there was gangrene to deal with, and laparotomy was done as an exploratory operation. In the second case the strangulation was at the umbilicus, and this was a most favourable position for excision. He thought that in laparotomy where the hernial sac was laid open, they might leave behind a peritoneal pouch which was full of septic material, and they would be extremely likely to expose their patient to septicæmia. He would prefer to do the ordinary herniotomy at the seat of gangrene, and after having cleared out the hernial sac, then open the abdomen as a secondary operation, and do resection and suture through the abdominal wound. He agreed with Mr. M'Ardle as to the danger in these cases if you operate at the ring and not resect sufficient intestine. He never used Senn's plates, because he thought as much time could be saved with the continuous suture, and the plates have very often led to stricture of the intestine. With regard to the statistics, he would be entirely in accord with what had been said by Sir W. Stokes. However, they found that in ordinary herniotomy where the gut was healthy the mortality was 40 per cent.; he believed that the large mortality was due to the return of what looked comparatively healthy gut into the abdomen, but which was in reality diseased. The mortality was only 48 per cent. in cases of resection for gangrenous gut, and he thought that this spoke volumes for this operation. He said the mere percentage of deaths in cases of artificial anus was 80 per cent., whereas Kuno, of Warsaw, who performed 21 resections had 16 successes. He thought, therefore, that cases which die of artificial anus would be saved if resection had been performed.

Notes of Two Cases of Cerebral Surgery.

By Dr. Charles B. Ball.

1. *Jacksonian Epilepsy.*—Man, aged thirty, fell on his head, receiving severe scalp wound of occipital region; no fracture recognised. For a fortnight he was dull and listless, with paralysis of sphincters; subsequently he became maniacal. He apparently completely recovered. Nine months subsequently he had spasm of left hand and arm, and partial left facial paralysis. Three months later (a year after injury) he had violent epileptiform fits. He was re-admitted to hospital, where, in the first 48 hours, he had 46 fits—each of the same character. The left hand and arm began to twitch, arm becoming flexed at elbow; twitching then spread to face, both legs and right arm; eyes turned up and to the left; muscles of left side contracted more violently than those of right, but came to rest sooner, as the fit passed off. Fits were followed by profuse sweating; conjugate deviation of eyes to right and rapid return of consciousness.

Although not corresponding to the scar of scalp wound, it was decided to trephine over right motor area, and as it was doubtful which arm centre was most involved, a 2-inch trephine was employed; it was found necessary to enlarge this opening upwards and forwards, as only the edge of the trephine struck the lesion, which was apparently an altered blood clot, about size of a sixpence, tightly adherent to dura mater, and apparently replacing the cortical brain substance, the white brain substance being clearly visible through its somewhat transparent tissue; all adhesions were separated and wound closed. Next day left arm was completely paralysed, with slight facial palsy and dilatation of right pupil. He was unable to move the eyes to the left of middle line. The recovery of motion in arm was gradual. He was first able to move the shoulder muscles. On 5th day he was able to move the elbow, but not the hand; by 29th day he could flex the fingers well, but had no power of stretching out hand or arm, and two months after operation he recovered power of extending fingers and stretching out his arm so as to pick up any object; he gradually also recovered power of moving eyes to the left of middle line.

He recovered sufficiently to return to his work as an engine-fitter, and has had no fit since the operation (1 year and 5 months).

The exact site of lesion was the posterior portion of the superior frontal convolution, centre No. 5, and the slow return of the power of extension of the arm and of moving the eyes to the left demonstrates the accuracy of Ferrier's observations in this respect.

2. *Abscess in Temporo-sphenoidal Lobe.*—Female, aged seventeen years, had right otorrhœa for nine months.

Symptoms.—For three months dull and listless; frequent vomiting; double optic neuritis, increasing markedly for last month, with dilatation of right pupil.

Oct. 26, 1891.—She had a rigor, followed by temp. 101°; extreme pain in head; face partly cyanosed. She was trephined the following day.

A ¾-inch trephine was applied directly above the external auditory meatus, so that the lower margin was half an inch above the roof of the meatus. Brain, much congested, bulged into the wound. The lower surface of the temporo-sphenoidal lobe was raised from the petrous bone, There were no adhesions indicating continuity of disease. A sterilised exploring needle penetrated abscess cavity at a depth of about a quarter inch from the surface. A large quantity—over 1 oz.—of pus was evacuated, and a drainage-tube inserted; it penetrated a distance of two inches from the trephine opening. She recovered rapidly, and was discharged February 8, 1892. She is now—15 months after operation—a bright, cheerful girl, in perfect health.

The position selected—half an inch above the roof of the meatus—was owing to the observations of Prof. Birmingham on the relations of the tegmen tympani to the roof of the meatus. He has shown that while sometimes, almost on the same level, the surface of the petrous bone is sometimes three-eighths of an inch above the level of roof of the meatus, so that if half an inch is allowed between the lowest portion of the circumference of the trephine and the roof of the meatus, a tolerably thin and uniform portion of bone is sawn through and the lower portion of the temporo-sphenoidal lobe certainly exposed.

The CHAIRMAN said that the Section was to be congratulated on having listened to two such interesting papers there that night. One point of practical importance to him was the question of using this exceptionally large trephine. A case occurred in his own practice 16 years ago, and he felt quite confident that had he an instrument of that kind the patient's life would have been saved. It was the case of a young harvestman who received a violent blow on the head which stunned him. He recovered from this, but suffered from very severe headache afterwards. He diagnosticated abscess and used a ¾-inch trephine on the side of the head over the left orbit, but without coming down on any matter. The *post mortem* showed that if the trephine had been applied a quarter inch behind they would have come down upon a tolerably large abscess. He thought opening the skull in cases of otorrhœa and caries very important and he felt sure that they would ultimately be the accepted views.

Mr. M'Ardle said he could think of nothing worse than trephining over the mastoid. He agreed with Dr. Ball that they should go well above the external auditory meatus, because they were then absolutely out of harm's way. He also believed that in a great many cases of fracture extending through the lateral sinus death was due to detachment of the clot and its being carried to the heart. And in the future, where clotting is diagnosticated, he would be inclined to cut down and ligature the jugular vein. He noted that the return of power is always slowest in the extensor muscles of the arm.

Mr. Franks endorsed everything that Mr. Ball said about the position for trephining in otorrhœa.—half an inch above the external auditory meatus is the rational place. He mentioned the case of a patient in the Adelaide Hospital who suffered from epileptic attacks, the result of a fall. He was treated for 12 months in the medical ward and put principally on bromides, which had no effect. The attacks were not localised. He picked out what was the most likely place to find mischief over a depression in the skull and found an old blood cyst. He cleaned this out, and for over a month the patient had no attacks. They then began again, but this time the bromides completely cured him. He would like to know whether the man operated on by Mr. Ball was of a bellicose disposition before he was trephined. Because, in the case of a workman in America whose frontal lobe was pierced right through with a crowbar, the man's disposition was completely changed for the worse afterwards. It seems as if injury to the frontal bone has this effect, because, in Dr. Ball's case, the tumour was likewise on the frontal lobe.

Dr. Ball, in reply, thanked the Section for the kind way in which they treated his communication. He omitted to state that Dr. Parsons had made some very nice drawings showing the gradual subsidence of the optic neuritis in one of the cases. His reason for using Horsley's trephine was that localising symptoms were obscured by the paroxysms, and they could only go so far as to say that it originated in some of the arm centres. And in order to expose as much as possible he used the large trephine. When they exposed the dura mater it was perfectly healthy, and it was only by sweeping the finger round that they found the disease at the margin of the trephine. With regard to the paralysis of the arm he admitted Mr. M'Ardle's contention in a general way. But the contrast between the good power of the flexors and the absolute incapacity of the extensors was so very marked that he thought they were justified in concluding that the observation of Ferrier was correct—that was, that when that portion of the brain is stimulated in monkeys, the finger is pointed out.

SANITARY AND METEOROLOGICAL NOTES.

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Vital Statistics

For four Weeks ending Saturday, April 22, 1893.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	April 1.	April 8.	April 15.	April 22.		April 1.	April 8.	April 15.	April 22.
Armagh -	28·0	7·0	21·0	0·0	Limerick -	29·5	28·1	11·2	19·6
Belfast -	25·2	24·2	22·8	26·4	Lisburn -	8·5	34·1	25·7	0·0
Cork -	29·8	27·0	17·3	33·2	Londonderry	28·3	23·6	26·7	23·6
Drogheda	25·1	8·8	26·4	26·4	Lurgan -	18·2	18·2	4·6	18·2
Dublin -	26·4	28·3	21·5	27·3	Newry -	24·1	12·1	16·1	48·3
Dundalk -	25·1	33·5	33·5	16·8	Sligo -	20·3	35·5	35·5	15·2
Galway -	11·3	15·1	37·8	34·0	Waterford -	47·5	30·0	17·5	35·0
Kilkenny	23·6	23·6	28·3	18·9	Wexford -	40·6	22·6	18·1	45·2

In the week ending Saturday, April 1, 1893, the mortality in thirty-three large English towns, including London (in which the rate was 21·0), was equal to an average annual death-rate of 21·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·7 per 1,000. In Glasgow the rate was 26·8, and in Edinburgh it was 16·5.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 26·6 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·0 per 1,000, the rates varying from 0·0 in eight of the districts to 20·0 in Waterford—the 19 deaths from all causes registered in that district comprising 5 from whooping-cough, 1 from enteric fever, and 2 from diarrhœa. Among the 128 deaths from all causes registered in Belfast are 2 from whooping-cough, 2 from diphtheria, 1 from simple continued fever, 2 from enteric fever, and 1 from diarrhœa. The 18 deaths in Londonderry comprise 2 from measles.

In the Dublin Registration District the registered births amounted to 141—85 boys and 56 girls; and the registered deaths to 187—80 males and 107 females.

The deaths, which are 26 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·9 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 26·4 per 1,000. During the first thirteen weeks of the current year the death-rate averaged 28·1, and was 4·8 under the mean rate in the corresponding period of the ten years, 1883–1892.

Twenty-seven deaths from zymotic diseases were registered, being 10 over the low number for the preceding week and 4 in excess of the average for the 13th week of the last ten years. They comprise 1 from scarlet fever (scarlatina), 1 from typhus, 5 from influenza and its complications, 2 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 5 from enteric fever, 2 from diarrhœa, and 1 from dysentery.

In each of the last two weeks 13 cases of enteric fever were admitted to hospital: 17 enteric fever patients were discharged and 68 remained under treatment on Saturday, being 4 under the number in hospital on Saturday, March 25.

Seventeen cases of scarlatina were admitted to hospital, being 4 over the number of admissions for the preceding week. Nineteen patients were discharged, 1 died, and 70 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 2 cases of typhus and 3 of measles: 3 cases of the former and 8 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 26, being 22 below the average for the corresponding week of the last ten years and 6 under the number for the week ended March 25. The 26 deaths comprise 18 from bronchitis and 5 from pneumonia or inflammation of the lungs.

In the week ending Saturday, April 8, the mortality in thirty-three large English towns, including London (in which the rate was 20·4), was equal to an average annual death-rate of 20·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·1 per 1,000. In Glasgow the rate was 25·6, and in Edinburgh it was 18·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 25·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in eight of the districts to 16·8 in Dundalk—the 8 deaths from all causes registered in that district comprising 4 from measles. Among the 123 deaths from all causes registered in Belfast are 3 from measles, 3 from typhus, 1 from whooping-cough, 1 from simple continued fever, 1 from enteric fever, and 2 from diarrhœa. The 12 deaths in Waterford comprise 2 from typhus, 1 from whooping-cough, and 1 from diarrhœa. The 4 deaths in Galway comprise 1 from enteric fever and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 206—108 boys and 98 girls; and the registered deaths to 193—106 males and 87 females.

The deaths, which are 15 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·8 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 28·3 per 1,000. During the first fourteen weeks of the current year the death-rate averaged 28·2, and was 4·6 under the mean rate in the corresponding period of the ten years, 1883–1892.

The number of deaths from zymotic diseases registered was 21, being 3 below the average for the corresponding week, and 6 under the number for the week ended April 1. The 21 deaths comprise 4 from influenza and its complications, 6 from whooping-cough, 2 from diphtheria, 2 from enteric fever, 1 from diarrhœa and 1 from dysentery.

There were but 7 cases of enteric fever admitted to hospital, being 6 under the admissions for each of the two weeks preceding: 20 enteric fever patients were discharged, 1 died, and 54 remained under treatment on Saturday, being 14 under the number in hospital on Saturday, April 1.

The number of cases of scarlatina admitted to hospital was 12, being 5 under the admissions for the preceding week and 1 under the number for the week ended March 25. Thirteen patients were discharged and 69 remained under treatment on Saturday, being 1 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 2 cases of typhus: 4 cases of this disease remained under treatment in hospital on Saturday.

Thirty-eight deaths from diseases of the respiratory system were registered, being 12 over the number for the week ended April 1, but 10 under the average for the 14th week of the last ten years. They comprise 25 from bronchitis and 9 from pneumonia or inflammation of the lungs.

In the week ending Saturday, April 15, the mortality in thirty-three large English towns, including London (in which the rate was 20·4), was equal to an average annual death-rate of 20·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·0 per 1,000. In Glasgow the rate was 26·1, and in Edinburgh it was 19·4.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 21·6 per 1,000 of the population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·0 per 1,000, the rates varying from 0·0 in nine of the districts to 8·4 in Dundalk—the 8 deaths from all causes registered in that district comprising 1 from measles and 1 from whooping-cough. The only death from any of the principal zymotic diseases registered in Belfast was 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 242—123 boys and 119 girls; and the registered deaths to 144—73 males and 71 females.

The deaths, which are 48 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21·5 in every 1,000 of the population. No deaths of persons admitted into public institutions from localities outside the district were registered. During the first fifteen weeks of the current year the death-rate averaged 27·7 per 1,000, and was 4·8 under the mean rate in the corresponding period of the ten years 1883-1892.

The number of deaths from zymotic diseases registered was 19, being 3 below the average for the corresponding week of the last ten years, and 2 under the number for the week ended April 8. The 19 deaths comprise 1 from influenza, 2 from measles, 1 from scarlet fever (scarlatina), 1 from typhus, 3 from whooping-cough, 2 from enteric fever, and 2 from diarrhœa.

The number of cases of enteric fever admitted to hospital is 6, being 1 under the admissions for the preceding week, and 7 under the number for the week ended April 1. Nine enteric fever patients were discharged and 51 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

Only 7 cases of scarlatina were admitted to hospital, being 5 under the admissions for the preceding week, and 10 under the number for the week ended April 1. Three patients were discharged, and 73 remained under treatment on Saturday, being 4 over the number in hospital on Saturday, April 8.

The hospital admissions included, also, 8 cases of measles and 1 of typhus: 11 cases of the former and 4 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 35, being 5 under the average for the corresponding week of the last ten years and 3 under the number for the week ended April 8. The 35 deaths comprise 19 from bronchitis and 13 from pneumonia or inflammation of the lungs.

In the week ending Saturday, April 22, the mortality in thirty-three large English towns, including London (in which the rate was 21·0), was equal to an average annual death-rate of 21·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·7 per 1,000. In Glasgow the rate was 26·3, and in Edinburgh it was 20·0.

The average annual death-rate in the sixteen principal town districts of Ireland was 26·8 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·7 per 1,000, the rates varying from 0·0 in seven of the districts to 12·6 in Dundalk—the 4 deaths from all causes registered in that district comprising 2 from measles and 1 from diphtheria. Among the 134 deaths from all causes registered in Belfast are 9 from measles, 1 from scarlatina, 4 from whooping-cough, 1 from diphtheria, 1 from enteric fever, and 4 from diarrhœa. The 15 deaths in Londonderry comprise 4 from measles and 1 from diphtheria. The 14 deaths in Waterford comprise 1 from measles and 1 from diarrhœa. Of the 10 deaths in Wexford 2 were from measles.

In the Dublin Registration District the registered births amounted to 194—93 boys and 101 girls; and the registered deaths to 194—89 males and 105 females.

The deaths, which are 3 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·9 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the district, the rate was 27·3 per 1,000. During the first sixteen weeks of the current year the death-rate averaged 27·8, and was 4·5 under the mean rate in the corresponding period of the ten years, 1883–1892.

Twenty-two deaths from zymotic diseases were registered, being 3 over the number registered in the preceding week, but 1 under the average for the 16th week of the last ten years. They comprise 2 from measles, 2 from influenza and its complications, 3 from whooping-cough, 1 from diphtheria, 4 from enteric fever, 1 from diarrhœa, 1 from dysentery, and 2 from erysipelas.

Eight cases of enteric fever were admitted to hospital, against 6 admissions for the preceding week. Eight enteric fever patients were discharged, and 51 remained under treatment on Saturday, being equal to the number in hospital on Saturday, April 15.

Eight cases of scarlatina were admitted to hospital, being 1 in excess of the admissions for the preceding week, but 4 under the number for the week ended April 8. Fifteen scarlatina patients were discharged, and 66 remained under treatment on Saturday, being 7 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 4 cases of measles and 1 case of typhus: 12 cases of the former and 3 of the latter disease remained under treatment in hospital on Saturday.

Forty-five deaths from diseases of the respiratory system were registered, being 2 in excess of the average for the corresponding week of the last ten years and 10 over the number for the week ended April 15. They comprise 26 from bronchitis and 13 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ *N., Long.* 6° 15′ *W., for the Month of April,* 1893.

Mean Height of Barometer, - - -	30·171 inches.
Maximal Height of Barometer (on 8th, at 9 a.m.), -	30·575 „
Minimal Height of Barometer (on 19th, at 4 p.m.), -	29·793 „
Mean Dry-bulb Temperature, - - -	50·3°.
Mean Wet-bulb Temperature, - - -	47·2°.
Mean Dew-point Temperature, - - -	43·8°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	·288 inch.
Mean Humidity, - - - - - -	79·0 per cent.
Highest Temperature in Shade (on 22nd), - -	66·8°.
Lowest Temperature in Shade (on 14th), - -	36·2°.
Lowest Temperature on Grass (Radiation) (on 14th)	28·9°.
Mean Amount of Cloud, - - - -	40·0 per cent.
Rainfall (on 7 days), - - - - -	1·046 inches.
Greatest Daily Rainfall (on 17th), - - -	·370 inch.
General Directions of Wind, - - -	N.W., E.N.E.,

Remarks.

April proved a fitting sequel to the record-breaking March of 1893. Like its predecessor, the month was characterised by drought, bright sunshine, and a high temperature. The mean amount of cloud was only 40 per cent., falling at 9 p.m. to 33·3 per cent. So powerful was the heating power of the sun by day that, notwithstanding free radiation by night, the thermometer did not fall below 36·2° in the screen, and 28·9°

on the grass in the city of Dublin. The drought was happily interrupted in Ireland by copious falls of rain on the 16th and 17th, and again on the 29th and 30th.

In the matter of temperature, however, April, 1893, breaks the record, the mean being 3·7° above average, and also 1·0° above the mean of the Aprils of 1865 and 1874, which had been the warmest since the present records began up to 1893. Unwonted drought held throughout the month in south-eastern England, the rainfall in London, for example, being only one-tenth of an inch on only 4 days.

In Dublin the arithmetical mean temperature (51·4°) was 3·7° above the average (47·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 50·3°. In the twenty-eight years ending with 1892, April was coldest in 1879 (the cold year) (M. T. = 44·5°), and warmest in 1865 and 1874 (M. T. = 50·4°). In 1886 the M. T. was 46·3°, in 1887 it was as low as 45·1°, in 1888 it was (as also in 1891) only 45·7°, in 1889, 46·1°; in 1890, 47·3°; and in 1892, 46·2°. The month now under discussion thus proves to have been the warmest April for at least 30 years.

The mean height of the barometer was 30·171 inches, or 0·321 inch above the average value for April—namely, 29·850 inches. The mercury was as high as 30·575 inches at 9 a.m. of the 8th, and fell to 29·793 inches at 4 p.m. of the 19th. The observed range of atmospherical pressure was, therefore, 0·782 inch—that is, a little more than three-quarters of an inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 50·3°, or 3·8° above the value for March, 1893. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·476), the value becomes 51·1°, or 3·7° above the average mean temperature for April, calculated in the same way, in the twenty-five years, 1865–89, inclusive (47·4°). The arithmetical mean of the maximal and minimal readings was 51·4°, compared with a twenty-five years' (1865-1889 inclusive) average of 47·7°. On the 22nd the thermometer in the screen rose to 66·8°—wind, S.E.; on the 14th the temperature fell to 36·2°—wind, W.S.W. The minimum on the grass was 28·9°, also on the 14th.

The rainfall was only 1·046 inches, distributed over 7 days. The average rainfall for April in the twenty-five years, 1865–89, inclusive, was 2·055 inches, and the average number of rainy days was 15·2. The rainfall, therefore, was considerably below the average, while the rainy days were also very deficient. In 1877 the rainfall in April was very large—4·707 inches on 21 days; in 1882 also 3·526 inches fell on 20 days. On the other hand, in 1873, only ·498 of an inch was measured on days; and in 1870 only ·838 of an inch fell, also on 8 days. The fall in 1890 was 1·575 inches on 14 days, in 1891, 1·553 inches fell on 14 days, and in 1892, 1·114 inches on 13 days.

There was a lunar halo on the 26th. The atmosphere was more or less foggy on the 6th and 17th. High winds were noted on only 4 days, and did not reach the force of a gale on any occasion. No snow or sleet was seen, but hail fell on the 29th. The temperature exceeded 50 in the screen on every day compared with only 24 days in April, 1892, and 18 days in April, 1891. It rose above 60° on 11 days, but never fell to 32° in the screen. The minimum on the grass was 32°, or less, on 5 nights, compared with 12 nights in March, 13 in February, and 16 in January. The mean lowest temperature on the grass was 38·2°, compared with 32·4° in 1892, 34·1° in 1891 and 1890, 34·4° in 1889, 34·6° in 1888, and 31·6° in 1887.

The first day of the month was cloudy and cool, but dry.

The drought, which set in at the beginning of March, continued through the week ended Saturday, the 8th. Temperature showed a decided tendency to fall, particularly on the eastern coasts of both Ireland and Great Britain, in which parts much sea-fog was prevalent. At the beginning of the week an anticyclone lay over Ireland and England, while an extensive and deep depression, with central barometrical readings below 28·90 inches, swept eastwards across the extreme North of Europe. Beautiful, bright weather prevailed, except in the far north, where clouds gathered and rain fell. Shallow depressions formed over the S.W. of Europe on and after Tuesday, so that a decided easterly air-current set in and fogs and low temperatures prevailed on the east coasts of the British Isles, while bright sunshine and warmth held inland. The most striking example of these conditions was presented on Thursday, when the thermometer rose to 63° at Loughborough, Oxford, and Cambridge—all inland stations, whereas the maximum was only 44° at Yarmouth and 42° at Spurn Head. On Friday the maximum was 68° in London, but only 42° at Shields and Spurn Head. After Thursday a new and much larger anticyclone formed in the N.W. and N., causing N.E. winds, clouds, and low temperatures on Friday and Saturday. In Dublin the mean pressure was 30·302 inches, the barometer falling to 30·051 inches at 6 30 p.m. of Wednesday (wind, E.), and rising to 30·575 inches, at 9 a.m. of Saturday (wind, N.E.). The corrected mean temperature was 48·5. The mean dry bulb readings at 9 a.m. and 9 p.m. were 48·0°. On Sunday the screened thermometers fell to 36·5°, on Wednesday they rose to 61·4°. A very slight shower fell at 5 p.m. of Thursday, but yielded no measurable rainfall. The prevailing wind was easterly.

With the exception of a general decrease of temperature, the weather of the week ended Saturday, the 15th, resembled that of its immediate predecessors, being singularly fine, dry, and quiet. Anticyclonic areas were found lying over one or another portion of the British Islands on every day of the week. At the same time shallow atmospherical depressions lay over southern Europe and the Mediterranean Basin, producing easterly winds and lower temperature in England and Ireland; while deeper cyclonic systems passed eastwards or south-eastwards across northern Europe, where frost and snow resumed their sway as the week advanced. Towards the close of the period the anticyclone began to move southwards, its centre on Thursday lying over the South of Scotland, on Friday over the midland counties of England, and on Saturday over the east of France. Sharp night-frosts were felt at many stations during the week—the sharpest of all occurred on Thursday night, when the thermometer fell to 24° in the screen at Loughborough and Cambridge, and to 27° at Oxford. In Dublin, Sunday, Tuesday, and Thursday were rather cloudy and very cool. Wednesday, also, was cold, but the air was dry and bright sunshine prevailed. In this city the mean height of the barometer was 30·331 inches, pressure ranging from 30·479 inches at 9 a.m. of Wednesday (wind, E.N.E.), to 30·103 inches at 9 p.m. of Saturday (wind, W. by S.). The corrected mean temperature was 47·6°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 47·0°. On Friday, the screened thermometers fell to 36·2°, on Saturday they rose to 60·6°. There was no rainfall until the early morning of Sunday, the 16th, when two-thousandths of an inch (·002) fell. The prevailing winds were, at first, E.N.E., afterwards W. and W.S.W.

While the general character of the weather during the week ended Saturday, the 22nd, was favourable, conditions were less stable than of late, and at the beginning of the week a grateful and copious rainfall in Ireland and Scotland gave a marvellous impetus to vegetation. On Sunday morning a shallow depression was found off the N.W. of Ireland, and a much deeper depression—with central readings of the barometer as low as 28·75 inches at Haparanda on the Gulf of Bothnia—was travelling eastwards across Lapland. In the course of the day rain fell in abundance at most Irish and several British stations, the downpour being renewed on Monday evening. At this time a well-defined anticyclone lay over the North Sea, influencing the English stations and causing finer and cooler weather. On Thursday morning the distribution of atmospherical pressure was very irregular, and several local and shallow depressions caused thunder showers in parts of Great Britain. Temperature had previously risen to an unusual height for the time of year at inland stations—to 68° at Parsonstown, 72° at Holyhead, 75 in London and at Oxford, 76° at Loughborough, and 78° at Cambridge on Wednesday. In Dublin the maximum next day (Thursday) was 66·6°, but in London it was 82° and at Cambridge 84°. Friday was very fine, but at night thunderstorms occurred at Roche's Point and Scilly. Saturday proved very warm but changeable in Ireland. In Dublin the mean height of the barometer was 30·014 inches, pressure varying between 30·151 inches at 9 p.m. of Thursday (wind N.) and 29·793 inches at 4 p.m. of Wednesday (wind, E.S.E.). The corrected mean temperature was 55·3°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 54·5°. On Friday the minimal temperature was 46·0°, on Saturday the maximum was 66·8°. Rain fell on five days to the total amount of ·762 inch, ·370 inch being measured on Monday. The prevalent winds were first S.W., afterwards E.S.E.

The record is once more one of most favourable weather during the week ended Saturday, the 29th. Bright, sunny, warm days were followed by quiet, clear, cool nights until Saturday, when copious showers fell at intervals, refreshing the face of nature and aiding vegetation. Areas of relatively high atmospherical pressure (anti-cyclonic systems) were found lying over the greater part of the British Islands until Saturday, when an extensive and definite depression travelled eastwards across the northern half of the United Kingdom, causing squally W. to N.W. winds and the grateful showers already mentioned. Throughout the week the barometer was comparatively low over the Iberian Peninsula, the Bay of Biscay, and France. Except at Lisbon, however, where 3·40 inches of rain fell on five days up to Friday morning, the weather was at first generally dry within the area of low pressure. On Thursday there was a downpour all over the South of France, ·83 inch being measured at Nice, ·87 inch at Biarritz, and 1·34 inches at Perpignan on Friday morning. Thunderstorms occurred at Prawle Point during the night of the 22nd-23rd, and at Holyhead on Monday night. In Dublin the mean height of the barometer was 30·067 inches, pressure varying from 30·137 inches at 9 a.m. of Monday (wind N.) to 29·887 inches at 3 p.m. of Saturday (wind W.N.W.). The corrected mean temperature was 53·8°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 52·5°. On Tuesday temperature rose to 65·7° in the shade; on Saturday it fell to 43·9°. Rain and hail fell on Saturday in heavy showers to the amount of ·150 inch. The prevailing winds were N. and N.W.

Sunday, the 30th, was changeable, but favourable.

The rainfall in Dublin during the four months ending April 30th amounted to 6·242 inches on 56 days, compared with 5·922 inches on 61 days during the same period in 1892, only 3·203 inches on 46 days in 1891, 9·045 inches on 59 days in 1890, 8·345 inches on 74 days in 1889, 8·090 inches on 58 days in 1888, and a twenty-five years' average of 8·466 inches on 66·2 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall during April, 1893, amounted to only 1·055 inches, distributed over only 5 days—·720 inch falling on the 16th. The total fall since January 1st, 1893, equalled 8·530 inches on 54 days.

The rainfall in April at Cloneevin, Killiney, Co. Dublin, was 1·15 inches on 6 days, as against an eight-years' average of 1·56 inches on 13·0 days. The maximal fall in 24 hours was ·63 inch on the 16th.

PERISCOPE.

QUININE AS AN APPLICATION TO WOUNDS.

IN *Nouveaux Remèdes* for April 8th, there is mentioned an article by Dr. Alföldi, published in the *Pester Medicinisch-chirurgische Presse*, and summarised in the February number of the *Therapeutische Monatshefte.* The author is convinced that a one-per-cent. solution of quinine sulphate is a more rapid detergent and cicatrisant in cases of infected wounds than either corrosive sublimate or iodoform. He adds that wounds that are free from infection also heal with astonishing rapidity under the use of quinine applications.—*N. Y. Med. Journ.*, May 6, 1893.

THE OPIUM QUESTION.

THE *Madras Mail* of Tuesday evening, April 25, 1893, quotes the following article from *The Pioneer of India*:—Too much prominence can scarcely be given to the observations on the opium question made by Sir George Birdwood in his introduction to the reprint of the "First Letter Book of the East India Company." There are, no doubt, respects in which Pompey is as good as Cæsar, and on some questions it would probably be as safe to consult Mr. Caine as Sir George Birdwood: but on the opium topic Sir George is assuredly entitled, both by historical research and practical experience, to speak with authority, and not as the scribes of Exeter Hall. During the latter fifteen years of his residence in India, he tells us, Sir George paid the closest attention to the subject, and had most varied opportunities of studying it. At various times in medical charge of the Southern Maharatta Irregular Horse, the 8th Madras Cavalry, the 3rd Bombay Native Infantry, a battery of Artillery, the jail and civil station of Sholapur (the very place, by the way, which elected Mr. Caine as its member), and the steam frigate "Agdaha"; subsequently Professor in the Grant Medical College at Bombay, and official visitor to the Bombay jails; and by inclination and habit one of the few Anglo-Indians who love to mix with all classes of the native population, Sir George is as well qualified as any man living to speak of the effects of opium consumption on the people of India. And what does he say? This, that in all his experience he "never met with a single native suffering, or who ever had suffered, from the habitual use of opium;" and that, excepting cases of accidental or wilful poisoning, he never knew a single instance of death from its use. More than this, he "never yet met any one who, in his own experience, has known of a case of death, or of injury to health, from the habitual eating or drinking of opium, as practised by the people of any part of India proper;" and he is prepared to defy anyone to bring forward a single authentic record. On the contrary, he declares that the healthiest population of Western India, such as the people of Gujarat, and more particularly of the districts of Kana and Broach, are "distinguished for their, so stigmatised, excessive use of opium." The victims of the so-called dens Sir George points out are the dregs of the population, and the real cause of their sufferings is not the opium pipe, which, in all cases that came under his observation, "seemed to be only the last palliative of their 'distempered torment.'" Both from personal experience, and as a medical man capable of pronouncing on its physiological effects, Sir George declares that opium-smoking "is as innocuous as smoking hay, straw, or stubble;" which, it may be remembered, is almost precisely the opinion expressed some time ago by a leading Calcutta physician. Sir George sums up by declaring that opium is "one of the greatest gifts of Providence to the people of the tropics," alike as a prophylactic against malaria, an adjuvant to the digestion of a vegetarian diet, and a harmless substitute for hurtful alcoholic stimulants. There could scarcely be a stronger expression of opinion; nor, as we have said, remembering the opportunities its author has had for arriving at true and just conclusions on the subject, could there be one more entitled to consideration. As against the vague assertions and hysterical declamations of Exeter Hall it is absolutely overwhelming.

"PEACH FEVER."

THIS name has been given to a cutaneous irritation, with fever, not infrequently seen among the employées in the fruit-packing and canning establishments of Maryland and Delaware. A paper on this subject, by Dr. C. L. Anderson, of Hagerstown, Maryland, is published in a recent number of the *Maryland Medical Journal.* Dr. Anderson divides the cases into two varieties. First, the psychotic variety, marked by mental exaltation, ideas of grandeur, seen in persons having a lively imaginative faculty; second, the true peach fever, caused by contact with the fruit in the course of its being picked and packed for market. This variety is defined as "a morbid condition of the respiratory and cutaneous surfaces, with some consequent systemic disturbances, due to irritation from the pubescence of the skin of the common peach—the *Amygdalus persica.*" The Schneiderian membrane first becomes irritated and tumefied, and yields a large flow of serum and mucus. The frontal sinuses, the conjunctivæ, and the larger bronchi, may take on, by extension, the same kind of disturbance; cough and asthma may be excited in susceptible subjects. On the skin, the chief display of this amygdaline inflammation will be found about the wrists, forearms, neck, and forehead. It commonly begins and ends in a macular or papular eruption; but it may go on to a true dermatitis and to pustulation. The febrile rise may be as high as two degrees, which may be taken to indicate the amount of systemic discomfort induced by the respiratory and cutaneous irritation. Thin-skinned and neurotic young women suffer more and longer than the pachydermatous men and the older women. The more experienced workers seem to become proof against the irritant after some years in the business. There is no evidence to show that the disorder is contagious.—*New York Med. Journ.*, May 6, 1893.

MEDICO-CHIRURGICAL SOCIETY, GLASGOW.

AT the annual general meeting of the Society the following gentlemen were elected office-bearers for session 1893–94:—President, Dr. Hector C. Cameron. Section of Medicine—Vice-President, Dr. Middleton; Councillors, Dr. Auld and Dr. W. A. M'Lachlan; Secretary, Dr. C. O. Hawthorne. Section of Surgery—Vice-President, Dr. W. J. Fleming; Councillors, Dr. Dalziel and Dr. M'Phail; Secretary, Dr. John Barlow. Section of Pathology — Vice-President, Dr. Charles Workman; Councillors, Dr. John Brown and Dr. T. K. Monro; Secretary, Dr. R. M. Buchanan. Section of Obstetrics—Vice-President, Dr. M. Cameron; Councillors, Dr. Lapraik and Dr. Jardine; Secretary, Dr. Lawrence Oliphant. Treasurer, Mr. Henry E. Clark. General Secretary, Dr. Walker Downie.—May 18th, 1893.

CANTHARIDES IN EPITHELIAL NEPHRITIS.

THE second number of the *New York Therapeutic Review* contains an article by Dr. E. Lancereaux, of Paris, in which the author expresses his conviction that tincture of cantharides is a valuable agent in the treatment of epithelial nephritis. He gives notes of two cases in which it was used in daily amounts of six drops to begin with, increased to ten or twelve. He thinks the drug acts by controlling the tendency to tumefaction of the epithelium of the tubuli contorti, and thus obviating anuria.—*N. Y. Med. Journ.*, May 6, 1893.

METHOD OF OBTAINING THE SPECIFIC HEAT OF CERTAIN LIVING WARM-BLOODED ANIMALS.

DR. W. HALE WHITE observes that hitherto the specific heat of animals has been determined by estimating that of the various components of the body after death. It has been found to be somewhere between 0·75° and 0·9°. In the case of so-called cold-blooded animals whose temperature varies with that of the surrounding medium, it is easy to estimate the specific heat in the living animal by observing the relative number of degrees of temperature through which the animal and an equal weight of distilled water originally at the same temperature, rose or fell when both were, under exactly similar conditions, subjected to warming or cooling. But the thermic mechanism of warm-blooded and cold-blooded animals is so different that it would be rash to assume that the specific heat is the same in the two classes. The author meets the difficulty by using hybernating dormice. These animals sleep rolled up in a ball. In the middle of this a thermometer was placed. Another was placed in a weight of distilled water exactly equal to that of the animal, and contained in a thin bright platinum capsule. A third thermometer gave the temperature of the air. The whole apparatus was moved from a cold room into one at 50° F. and back again. As the temperature of the dormouse rose and fell with that of the air, the number of degrees an equal weight of distilled water rose or fell, divided by the number of degrees the temperature of the dormouse rose or fell in the same time, gives the specific heat of the dormouse, which, calculated in this way, was found to vary between 0·812° and 1·18°, so that if we set it down at 0·95° we shall probably be very near the mark. The possible sources of fallacy in the method are considered, and shown to be unimportant.—*Journal of Physiology.* Suppl. 1892.

SALOCOLL.

Salocoll is the abbreviated name of the salicylate of phenocoll, which E. Schering introduced to obviate the unpleasant effects which sometimes follow on the use of the hydrochlorate of phenocoll. Given in doses of one or two grammes several times a day, E. Schering says it is a reliable antipyretic, and also a specific for influenza.—*Répertoire de Pharmacie.* 1893. No. 4.

CORYL.

Coryl is the name given to a mixture of the chloride of methyl and the chloride of ethyl, which is employed as a local anæsthetic. It liquefies at 0° C., whilst liquid chloride of methyl has a temperature of about −27° C. The sensation of cold on the skin is therefore less disagreeable with coryl than with chloride of methyl. The anæsthesia is very evanescent, consequently the mixture is suitable for dental practice and minor operations only.—*Répertoire de Pharmacie.* No. 4.

EUROPHEN.

Europhen has been injected subcutaneously by J. Goldschmidt (*Ther. Monatsch.*) as a remedy in leprosy. He found it softened and diminished the size of the nodules, but had not any effect in staying the progress of the disease. Injections of the drug in oil were also used. This treatment, continued for ten months with one patient, produced marked amelioration of the symptoms. Five months after the cessation of the treatment, the patient relapsed, and the disease quickly assumed an aggravated type.—*Les Nouveaux Remèdes*, No. 9.

CHLORIDE OF METHYL.

Hertmann (*Ther. Monatsch.*) has been using the chloride of methyl as a local application in the form of a spray in 15 cases of sciatica, of which

10 are reported as cured, 3 benefited, and 2 unrelieved; 2 cases of neuralgia, 1 cured and 1 not benefited; 1 case of pleurodynia, cured; 6 cases of rheumatism, 5 cured and 1 relieved. He suggests that the part to be sprayed should first be rubbed with vaseline to prevent the formation of blebs.—*Les Nouveaux Remèdes*, No. 9.

TOLYPYRIN.

TOLYPYRIN (para-tolydimethyl-pyrazolon), which has an elaborate chemical formula, is introduced as a new antipyretic remedy. It occurs as colourless crystals of a very bitter taste; it is soluble in ten parts of water, readily soluble in alcohol, and almost insoluble in ether. Like antipyrin, its aqueous solution is coloured an intense red by the addition of nitric acid. The drug is eliminated by the kidneys. In a communication to the Medical Society of Berlin P. Guttmann told of its antipyretic properties in twenty cases:—Typhoid fever 6, pneumonia 5, erysipelas of the face 2, scarlatina 2, phthisis 2, septicæmia 1, otitis 1, and gangrene of the scrotum 1. Given in gramme doses every hour for four hours tolypyrin gradually reduces the temperature for the succeeding five or six hours. The fall of temperature is accompanied by sweating and a lessening of the number of the pulsations. Tolypyrin is more powerful as an antipyretic than antipyrin in the proportion of 4 to 6. As an anti-rheumatic remedy in 15-grain doses every three hours it is said to be superior to all other remedies, cutting short acute rheumatism, and quickly relieving the pains of the articular forms of the disease. Cephalalgia yields more readily to it than to antipyrin. The only drawback to the use of the new remedy is the occasional occurrence of vomiting.—*Les Nouveaux Remèdes*, No. 9.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Mineral Waters from Niedermendig, Germany.

A CASE of natural mineral waters from the springs at Niedermendig, Germany, has been placed in our hands for analysis by the "Reginaris" Natural Mineral Water Company, 110 Shaftesbury-avenue, London, W.

The mineral waters are two—"Reginaris" and "Ferruginaris." On analysis, "Reginaris" is found to be remarkably free from animal and vegetable impurities. It is an alkaline and slightly laxative water, containing bicarbonates, sulphates, and chlorides of calcium, magnesium, potassium, and sodium. It is highly aerated and forms a most palatable and refreshing table water. The capacity of the spring is one million bottles a day, so that this bright, sparkling mineral water can be supplied at a moderate cost.

"Ferruginaris" contains a considerable quantity of iron—principally in the condition of ferrous bicarbonate. It is well aerated, effervescing to an extraordinary degree when the bottle is opened. While its somewhat muddy, rusty appearance prejudices the mind against it, its taste is found to be most pleasant and agreeable. It should be drunk out of coloured glasses. We foresee for both these waters a great future, both as table-waters and as remedial agents in gout, rheumatism, indigestion, anæmia, and renal diseases.

Caffyn's Liquor Carnis.

THIS well-known food has recently been prepared in such a way as greatly to increase its nutritive power. We have carefully analysed the improved preparation, and find that it consists of the juice of raw beef in admixture with glycerine as a preservative. It is rich in the soluble proteids of uncooked meat and in phosphatic salts. We have no hesitation in pronouncing the Liquor Carnis to possess a high nutritive value as an article of food.

"Virol."

THE "Liquor Carnis Company," of 55 Holborn Viaduct, London, E.C., have recently placed in the market a substitute for cod-liver oil, which they believe to be "satisfactory alike to the scientist and the patient." The great difficulty to be overcome in its preparation was the combination of a readily digestible animal fat with proteids and carbohydrates, in strictly physiological proportions. "Virol" is described as "a highly concentrated 'Complete Food,' consisting of the proteids of beef and eggs, the fats of beef and eggs, the marrow of beef or essence of bone, the carbohydrate—extract of malt, and the salts of beef and egg (including the lime-salts of the shell) in proportions carefully adjusted to diet formulæ laid down by the most up-to-date physiologists." Virol is said to throw no extra strain upon the kidneys. Its diastatic action is very marked. It forms a very perfect emulsion, is stable in composition, has an agreeable honey-like taste, which causes children to take it readily as it is, or spread upon bread. Virol is supplied in half-crown stoneware jars by all wholesale and retail chemists.

Soluble Pearl-coated Pills.

IN the number of this Journal for January, 1892 (Vol. XCIII., No. 241, third series, page 94), we noticed in terms of approbation the soluble pearl-coated pills prepared by Mr. Stephen Wand, of Leicester. A reference to Mr. Wand's current price-list shows that his very elegant preparations may be purchased on specially favourable terms, as prices are unusually low—in fact, they have never been lower. In addition to pills, the price-list refers to the various medicated bougies, pessaries, suppositories, medicated jujubes, cachets, and tablets of compressed medicines manufactured by the widely-known Leicester firm.

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